# South African Medical Journal

Organ of the Medical Association of South Africa

Incorporating the South African Medical Record and the Medical Journal of South Africa

Registered at the General Post Office as a newspaper

# S.-A. Tydskrif vir Geneeskunde

Blad van die Mediese Vereniging van Suid-Afrika

Waarby ingelyf is die South African Medical Record and the Medical Journal of South Africa

By die poswese as nuusblad geregistreer

Cape Town, 7 August 1954
Weekly 2s. 6d.

Vol. 28 No. 32

Kaapstad, 7 Augustus 1954
Weekliks 2s. 6d.


IN THIS ISSUE — IN HIERDIE UITGAWE

South African Medical Journal
Suid-Afrikaanse Tydskrif vir Geneeskunde
P.O. Box 643, Cape Town Posbus 643, Kaapstad

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## VAN DIE REDAKSIE

### CHOLANGIOGRAFIE

Tot onlangs was die radiografiese uitbeelding, sonder behulp van chirurgie, van die hoofgalbuise buite die lewer, onbevredigend. Met die gebruik van nuwer middels vir cholesistografie bv. iopaneriese suur (telepaque), is 'n mate van sukses behaal. In gevalle waar die pasiënte se galblase met sodanige kontrasmiddels gevul is, kan dele van die blaas- en gewone galbuise in opeenvolgende beligtings aangetoon word, nadat die galblaas as gevolg van 'n vetterige maal inkrimp. In baie gevalle word die buise egter nie deur hierdie metode sigbaar nie. Oor die algemeen is hierdie cholesistografiese kontrasmiddels, wat per mond toegedien word, onbetroubaar, te wyte aan wisselvallige absorbering deur die spysverteringskanaal en die onvoldoende konsentrasie daarvan in die buise buite die lewer; volgens 'n onlangse verslag [1] egter, is goeie resultate met telepaque verkry en het die galbuise op die plate gewys in ongeveer 85% van gevalle na verwydering van die galblaas. Ander metodes om die galbuise sigbaar te maak het chirurgiese prosedure behels, bv. deur die galafvoerbuis met kleurstof in te spuit met behulp van 'n spuitnaald, 'n T-vormige buis of 'n kateter [2].

'n Nuwe kontrasmiddel *biligrafin* is nou vrygestel wat die galbuise buite die lewer ondeurstraalbaar maak al het die galblaas 'n kwaal of al is dit verwyder. Hierdie middel (‚biligrafin'-Schering; ‚cholografin'-Squibb) is op groot skaal in Duitsland uitgetoets maar verslae uit ander bronne [3] is ook nou beskikbaar. Die stof word van tri-iodobensoësuur verkry, dit is kristalvormig, oplosbaar in water en die oplossing is kleurloos. Ongeveer 90% van die middel word na 'n binneaarse inspuiting deur die lewerselle afgeskei. In die meeste gevalle wys die galafvoerbuis binne 10 minute en in feitlik alle gevalle wys dit op 'n 20-minuutplaat. Dele van die galbuise binne die lewer word dikwels sigbaar. Dieselfde resultate word van pasiënte met galblase verkry en van pasiënte wie se galblase verwyder is. Die galblaas self word binne 40—60 minute sigbaar en wys op sy duidelikste binne 2—2½ uur na die inspuiting. Deurstraalbare steentjies kan duidelik gesien word. Die buise bly vir minstens 1 uur sigbaar en selfs vir so lank as 4 uur.

## EDITORIAL

### CHOLANGIOGRAPHY

Until recently the radiographic demonstration of the major extrahepatic bile-ducts by non-surgical means had not been satisfactory. Partial success had been obtained with the introduction of the newer media used for cholecystography, e.g. iopanoic acid (telepaque); in patients whose gall-bladders become filled with such contrast media, variable portions of the cystic and common bile-ducts may be demonstrated in serial exposures made after the gall-bladder contracts following the oral administration of fat. In many patients the ducts are however not made visible in this fashion. In general these orally administered cholecystographic contrast media are unreliable because of variable absorption from the intestine and inadequate concentration in the extrahepatic ducts; however, in a recent report [1] good results were obtained in visualizing the bile-ducts in approximately 85% of post-cholecystectomy patients by the use of iopanoic acid (telepaque). Other procedures for visualizing the bile-ducts have involved surgical methods, as for example the introduction of dye into the common duct by needle, T-shaped tube or catheter.[2]

A contrast medium has now become available which renders the extrahepatic bile-ducts radiopaque even if the gall-bladder is diseased or has been removed. The material used ('biligrafin'—Schering; 'cholografin'—Squibb) has been extensively investigated in Germany, but reports are now becoming available from other sources.[3] The substance is a derivative of tri-iodobenzoic acid, crystalline, and soluble in water giving a colourless solution. After intravenous injection approximately 90% of the drug is excreted by the liver cells. The common duct can then in most cases be detected in 10 minutes and in nearly all cases in the 20-minute film. Portions of the intrahepatic bile-ducts are also frequently seen. In patients with gall-bladders the same results are obtained as with those who have undergone cholecystectomy. The gall-bladder itself becomes first demonstrable in 40-60 minutes, and to maximal degree 2-2½ hours after injection. Radiolucent calculi are clearly

Met behulp van hierdie middel kan 'n cholesistografie en 'n cholangiografie vinnig uitgevoer word—die galbuise wys die eerste. Veranderings in die galbuise kan derhalwe sonder behulp van chirurgie bestudeer word—selfs in pasiënte wie se galblase verwyder is. Met behulp van hierdie middel kan die fisiologie van die galblaas en -buise en die uitwerking van verskeie faktore met inbegrip van emosionele stoornisse en geneesmiddels meer intensief bestudeer word.

In hierdie uitgawe (bl. 679) verskyn 'n verslag deur dr. C. J. B. Muller oor 18 gevalle waarin biligrafin vir radiologiese ondersoek gebruik is.

shown. Once visualized the ducts remain demonstrable for at least 1 hour and even for as long as 4 hours.

The new medium allows of rapid cholecystography and cholangiography, the bile-ducts being visualized first. Alterations in the bile-ducts can therefore be studied by non-surgical means, even in patients without gall-bladders. This medium will also permit of more intensive study of the physiology of the gall-bladder and ducts, and the changes induced by various factors, including emotional disturbances and drugs.

We publish this week (p. 679) a report by Dr. C. J. B. Muller on the results of 18 cases in which he has used biligrafin in his radiological examination.

VERWYSINGS

1. Twiss, J. R. *et al.* (1945): Amer. J. Med. Sci., **227,** 372.
2. Mehn, W. H. (1954): Surg. Clinics N. Amer., **34,** 151.
3. Berk, J. E. *et al.* (1945) Amer. J. Med. Sci., **227,** 361.

REFERENCES

1. Twiss, J. R., *et al.* (1954): Amer. J. Med. Sci., **227,** 372
2. Mehn, W. H. (1954): Surg. Clinics N. Amer., **34,** 151.
3. Berk, J. E. *et al.* (1954): Amer. J. Med. Sci., **227,** 361.

## THE TREATMENT OF PLANTAR WARTS

Plantar warts are the cause of much irritation and suffering, and the difficulty of eradicating them can be assessed by the large number of cures devised.

The etiological agent is a virus, which leads to the formation of papillomata that embed themselves in the soles of the feet, usually on pressure points, and produce great pain and discomfort in walking, thus upsetting the whole mechanics of the foot and spine. They are most commonly seen in young people in the summer, when there is a greater tendency to walk about bare-footed, which spreads the contagion. Prophylactic hygienic measures should be taken in all schools and swimming baths.

Amongst the many methods of treatment used may be mentioned: 5% formalin soaks for multiple superficial warts; novocaine injections into the base of the wart, which not all practitioners have found satisfactory; maceration of the wart with 40% salicylic-acid plaster covered with adhesive felt in which a hole has been cut through which the wart extrudes itself and can be painlessly curetted away; and X-ray therapy, which is very useful for superficial warts but has its dangers when given to eradicate deep lesions.

A method which has been used at Groote Schuur Hospital, Cape Town, for the past 4 years is reported as giving better results than any other yet tried. The patient is given a general anaesthetic and the foot is thoroughly cleaned with 'cetavlon' and spirit. The wart is then curetted out with a Volkmann's spoon. Great care must be taken to remove every particle of the white, friable warty tissue, which may extend laterally as well as downwards. When the cavity is clear of warty tissue a considerable amount of bleeding occurs. On swabbing the cavity, the smooth, shiny basement membrane can be seen. The cavity is then packed with dry potassium permanganate crystals, which control the haemorrhage and prevent secondary infection. A dry sterile gauze dressing is applied with an 'elastoplast' bandage over it. This dressing remains on the foot for 10 days, and the patient is given strict instructions to keep the foot dry, for a severe burn will result if the potassium permanganate crystals become wet. He is allowed to go home on recovery from the anaesthetic.

After the 10 days the dressing is removed and the cavity is seen to be clean, dry and granulating up from below. The remains of the potassium permanganate crystals are gently removed and further dressings are unnecessary as a rule.

Two hundred warts have been treated at Groote Schuur Hospital by this method; there have been 16 known recurrences, which are regarded as possibly being due to small shreds of warty tissue left behind in the cavity.

## SCHIZOPHRENIA IN MALE BANTU ADMISSIONS TO WESKOPPIES HOSPITAL

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The increasing recognition of mental disorder in the South African Bantu is in keeping with his greater contact with, and his acceptance of, the European way of life. While the clinical picture of the individual patient may be modified by his cultural background, all the varieties of mental disorder described in the European may also be seen in the Bantu.

Studies of certified first admissions of European and Bantu males to South African mental hospitals[1], show decided differences in the comparative admission rates of certain disorders. In Table I it may be seen that the rate of schizophrenic first admissions is more than twice as high in the Bantu as it is in the European, while the reverse holds true in the senile and arterio-

sclerotic, and mental defective groups. Many of these consistent differences may possibly be accounted for by the cultural and socio-economic differences between the two communities.

The fact that there are amongst them no institutions catering specifically for mentally defective non-Europeans explains why there are so many more mentally defective European admissions to South African mental hospitals. It is usually only the very troublesome non-European defective that *does* get certified and admitted, and then only if a vacancy in a mental hospital should occur.

One also notes that the over-all rate of certifie dre-admissions to our mental hospitals is nearly twice as high in the Europeans as it is in the non-Europeans. The figures for the years 1949—51 inclusive were fairly constant, and were on the average 18% and 10% respectively. Here again, social factors come into play.

A *favourable response to E.C.T.* has been taken to indicate one in which remission of the illness occurred either during treatment, or in the 30-day post-treatment period.

A remission which took place with no specific therapy apart from routine hospital treatment has been regarded as a *spontaneous remission*.

No attempt has been made to evaluate results from the point of view of duration of illness or mode of onset, because of the impossibility of obtaining the relevant information in the vast majority of patients.

*Ages* of patients were often estimated, because even the accessible patient was frequently unable to give his correct age.

No curarizing or other anti-convulsant modifications of E.C.T. were used in the application of treatment.

The usual frequency of treatment was 2 or 3 convulsions per week.

TABLE I. A COMPARISON BETWEEN THE FREQUENCY OF THE DIAGNOSTIC CATEGORIES FOUND IN MALE EUROPEAN AND MALE BANTU FIRST ADMISSIONS TO ALL SOUTH AFRICAN MENTAL HOSPITALS, WITH COMPARATIVE FIGURES FOR THE PRESENT STUDY (EXPRESSED IN PERCENTAGE OF TOTAL NUMBER OF FIRST ADMISSIONS)

| *Diagnostic Category* | *Male Europeans* | | | *Male Bantu* | | | *Present Study, December 1952—February 1954* |
|---|---|---|---|---|---|---|---|
| | 1949 | 1950 | 1951 | 1949 | 1950 | 1951 | |
| Senile and Arteriosclerotic Psychoses | 16 | 17½ | 18 | 3 | 5 | 4 | 2 |
| Cerebral Syphilis | 4 | 4 | 2 | 6 | 6 | 7 | 4 |
| Organic Psychoses due to Alcohol, Infection, Exhaustion | 11 | 12 | 10½ | 14 | 16 | 18 | 14 |
| Manic Depressive Psychoses | 10 | 9 | 9 | 5 | 4 | 7 | 3 |
| Schizophrenic and Paranoid Psychoses | 20 | 19½ | 23 | 50½ | 48 | 43 | 57½ |
| Defective Mental Development | 18 | 22 | 20 | 6 | 5 | 6 | 4 |
| Epileptic Psychoses | 6 | 5 | 6 | 8 | 10 | 8 | 6 |
| Psychoneuroses | 5 | 3 | 4 | ½ | — | ½ | 1 |
| All other Psychoses | 6 | 4 | 6 | 5 | 5 | 6 | 7½ |
| Not Mentally Disordered on Admission | 4 | 4 | 1½ | 2 | 1 | ½ | 1 |

Between December 1952 and February 1954 a total of 400 male Bantu cases were admitted to Weskoppies Hospital, Pretoria. Of these, 34 patients were known to have been previously admitted to mental hospitals (8½%); only 2 patients were known to have had some formal psychiatric treatment outside a mental hospital. Both latter cases were school-teachers. In Table I (last column) is shown the percentage admission rates of the various diagnostic categories into which the 366 *first* admissions (out of these 400 consecutively-admitted cases) were divided.

This paper is concerned chiefly with the cases grouped under the heading 'Schizophrenic and Paranoid Psychoses'. There were 227 of these cases, and they will be discussed in this paper from the point of view of their response to electro-convulsive therapy (E.C.T.) and of their outcome by May 1954 (that is, 3 or more months after the admission of the last patient in the series). Certain general principles of prognosis in schizophrenia, especially as they concern the cases under consideration, will also be discussed. Of this group of 227 patients, 17 were known to have been previously admitted to one or other mental hospital.

## POINTS IN THIS STUDY

The term *Remission* will be used to denote that a case improved sufficiently to be discharged from hospital.

There were difficulties in this study not usually found in European cases. Some of these were:

(*a*) One invariably had to communicate with the patient by means of an interpreter.

(*b*) The absence of a reasonable history of the case prior to certification and admission, was in the vast majority a tremendous drawback in the assessment of diagnosis and prognosis. For the same reason it was often impossible to say whether it was the patient's first admission to a mental hospital.

(*c*) The absence of any 'style of life' in the detribalized Bantu (of whom most of the cases consisted), as well as the language difficulty, precluded any attempts at formal psychotherapy.

(*d*) Follow-up studies, which, though difficult to carry out, *can* be done in European cases, were virtually impossible in most of these Bantu cases.

## THE SCHIZOPHRENIC PSYCHOSES

In schizophrenia the specific symptoms are innumerable and vary from one case to another, but the patients have in common an apathy or indifference to the events of reality, and a splitting of thought from its appropriate affective response.

There is a great deal of overlap between the 3 main sub-types of schizophrenia (i.e. the catatonic, hebephrenic and paranoid), but the subdivision serves a practical purpose in the early stages of the disease, when the possible outcome of a typical case of one or other sub-type is under consideration. However, as the duration of the illness increases, the distinction between them, and especially between the catatonic and the

hebephrenic, becomes more and more blurred. Thus the figures given for their respective proportions differ for various institutions, and vary, too, from worker to worker.

Paraphrenia may be regarded as the half-way house between the schizophrenic and true paranoid psychoses, and the 4 paraphrenic cases in this paper have been included under the Schizophrenic Psychoses.

The 'other' schizophrenics were nearly all chronic cases with some retention of affect and personality organization.

Table II shows the numbers in each of the sub-types, into which the 227 cases in this study have been divided.

In their study of male Bantu admissions to Weskoppies Hospital during 1952, Lamont and Blignault [2] discussed some features of schizophrenia in the Bantu, and showed that 'whereas the majority of cases in all 3 categories react to outside environment with restless, excited and impulsive behaviour, the majority react to hospital environment with a withdrawal response. This tendency is most marked in the paranoid cases and least in the hebephrenic group'. This latter observation was corroborated in the present study (see Table II).

TABLE II. THE NUMBER OF PATIENTS IN EACH OF THE 'SCHIZOPHRENIC AND PARANOID' SUB-TYPES WITH REGARD TO WHETHER THEIR GENERAL BEHAVIOUR IN HOSPITAL WAS 'QUIET AND WITHDRAWN' OR 'NOISY AND EXCITED'

| *Schizophrenic Sub-type* | *Number of Cases* | *'Quiet and Withdrawn'* | *'Noisy and Excited'* |
|---|---|---|---|
| Hebephrenic | 66 | 24 | 42 |
| Catatonic | 130 | 72 | 58 |
| Paranoid | 16 | 11 | 5 |
| 'Other' | 11 | 10 | 1 |
| Paraphrenia | 4 | 4 | — |
| Totals | 227 | 121 | 106 |

Of the total number of cases (227) in this group, 170 were treated with E.C.T., which was withheld from 57 cases, for the following reasons:

(*a*) In 36 cases there was a spontaneous remission.
(*b*) Six cases died before treatment was considered.
(*c*) In 3 cases there were physical contra-indications.
(*d*) There were 3 patients transferred from other institutions, who had undergone E.C.T. previously without any effect.
(*e*) Three cases had been ill, according to reliable information, for periods of more than 10 years.
(*f*) There were 4 recent admissions who were still being observed.
(*g*) Two paraphrenics were not treated in view of the diagnosis.

The ages of the patients varied from 16 to 55 years, and the averages for the sub-types were as follows:

| | |
|---|---|
| Hebephrenic Schizophrenia | 24·5 years |
| Catatonic Schizophrenia | 27·7 years |
| Paranoid Schizophrenia | 31·0 years |
| 'Other' Schizophrenia | 37·4 years |
| Paraphrenia | 45·0 years |

In studying the *outcome* of the 227 patients in the 'Schizophrenia and Paranoid Psychosis' group (whether or not they were treated with E.C.T.) one has attempted to find out (*a*) in which sub-type the outcome was most favourable, and (*b*) whether there was any difference in outcome between the generally 'quiet and withdrawn' and 'noisy and excited' groups of patients.

Of the 17 cases who were known to be re-admissions, 10 were given E.C.T.

In Table III an analysis has been made of the *remitted* catatonic and hebephrenic cases in terms of the number of months that they had spent in hospital before a spontaneous remission occurred or before E.C.T. was given. The numbers of remissions in the remaining schizophrenic sub-types were too small to warrant an analysis.

Table III shows that on the average the cases of the catatonic sub-type remitted spontaneously in 1.75 months after admission as compared with 3.1 months in the hebephrenic cases. Of the catatonic and hebephrenic patients who remitted after E.C.T., the average time period before E.C.T. was given was just over 3 months after admission.

*The average number of electrical convulsions* given to these patients before remission occurred was 11. In most of the cases who did not respond favourably to E.C.T. as many as 20 convulsions were given before treatment was terminated. It was found that 11 out of the 40 cases in these 2 sub-types who did remit required more than 15 convulsions before remission occurred.

20 cases required less than 10 convulsions
9 cases required 11 to 15 convulsions
9 cases required 16 to 20 convulsions
2 cases required more than 20 convulsions
The range was 5-23 convulsions

In Table IV an analysis has been made of the outcome by May 1954 of the generally 'quiet and withdrawn' and 'noisy and excited' groups of cases, with and without the use of E.C.T.

From Table IV it may be seen that 18% of the withdrawn catatonics remitted (i.e. 13 out of 72 cases), as compared with 55% of the excited ones (i.e. 32 out of 58), and 17% of the withdrawn hebephrenics remitted (i.e. 4 out of 24) as compared with 57% of the excited ones (i.e. 24 out of 42).

## PROGNOSIS IN SCHIZOPHRENIA

Prognosis in psychiatry has to be considered both from the long-term point of view and from that of the immediate episode. In this discussion, unless otherwise stated, we shall refer only to the latter.

The immediate prognosis for psychotic reactions in general is far more favourable than is generally believed,

TABLE III. NUMBER OF REMITTED CATATONIC AND HEBEPHRENIC CASES, AND DURATION OF STAY IN HOSPITAL (IN MONTHS) (A) BEFORE SPONTANEOUS REMISSION OCCURRED, AND (B) BEFORE THE E.C.T.-TREATED REMISSIONS RECEIVED TREATMENT

| *Schizophrenic Sub-type* | *Total Remitted Cases* | *Spontaneous Remissions* — *Months before Remission* | | | *E.C.T.-treated Remissions* — *Months before E.C.T. was given* | | |
|---|---|---|---|---|---|---|---|
| | | *Cases* | *Range* | *Mean* | *Cases* | *Range* | *Mean* |
| Catatonic | 45 | 21 | 1—4 | 1·75 | 24 | 1—7 | 3·1 |
| Hebephrenic | 28 | 12 | 1—6 | 3·1 | 16 | 1—5 | 3·2 |

TABLE IV. ALL THE HEBEPHRENIC AND CATATONIC CASES, AS REGARDS THEIR GENERAL PATTERN OF BEHAVIOUR IN THE WARD, AND THEIR OUTCOME BY MAY 1954

| *Schizophrenic Sub-type* | *General Pattern of Behaviour in the Ward* | *Cases Remitted* E.C.T. | *No E.C.T.* | *Cases Unremitted* E.C.T. | *No E.C.T.* | *Total Cases* | |
|---|---|---|---|---|---|---|---|
| Catatonic | Quiet and Withdrawn | 5 | 8 | 52 | 7 | 72 | 130 |
| | Noisy and Excited | 19 | 13 | 21 | 5 | 58 | |
| Hebephrenic | Quiet and Withdrawn | 1 | 3 | 19 | 1 | 24 | 66 |
| | Noisy and Excited | 15 | 9 | 17 | 1 | 42 | |

and some 50-60% of all first admissions to mental hospitals are later discharged as remitted. Usually, *the longer duration of illness prior to hospitalization, and the longer the period of hospitalization without improvement, the less favourable is the prognosis.*

Prognosis varies too for the different diagnostic categories. It is best in the manic depressive and involutional psychoses.

It is in the schizophrenic group of psychoses that the greatest prognostic problems occur. Under routine hospital treatment before the introduction of modern therapeutic procedures, the rate of discharge of schizophrenic patients averaged about 30% of admissions.[3] The highest remission rates occurred in the first 3 months after admission, tailing off rapidly after the first year. The highest remission rates took place amongst those under 30 years of age.[4] It is found in most studies that, of the 3 main sub-types of schizophrenia, the catatonic has the best *immediate* prognosis.

In European schizophrenics useful prognostic criteria for the natural course of the illness have been established. These have been based on such factors as heredity, pre-psychotic personality, mode of onset and duration of illness prior to hospitalization, precipitating factors, diagnostic sub-types, clouding of consciousness, an atypical clinical picture, and the results of psychological tests such as the Rorschach and Thematic Apperception tests.

Since the introduction of the modern methods of treatment (insulin coma therapy in 1933, and electroconvulsive therapy in 1938) the prognosis in most cases of schizophrenia has become more favourable, but, as Bellak concludes from his review of the literature,[5] it is in those cases where the natural course of the illness is likely to give a better prognosis that there is a better chance of getting results with modern therapeutic methods.

There is still a difference of opinion in psychiatric circles about which form of therapy is more efficacious in schizophrenia—insulin or E.C.T. In a wide survey Impastato and Almansi[6] reported that the results in both were very similar. In a study of 1039 first-admission schizophrenic patients who were given insulin therapy, Ross and Malzberg[7] showed that 59% remitted after termination of treatment. After a survey of the literature, Cook[8] stated that 55-60% of patients treated with E.C.T. in the first year of their illness might be expected to show a remission.

## RESULTS

Of the total number of cases (227) in this study, the over-all outcome by May 1954 was as follows:

21 (9.4%) given only routine hospital treatment, remained mentally disordered or else had died.

36 (15.5%) made spontaneous remissions.

44 (19.5%) remitted after E.C.T. was given.

126 (55.6%) failed to remit either spontaneously or after E.C.T., and remained mentally disordered.

In analysing the outcome of the various sub-types, the following was found:

(*a*) Of the 4 *paraphrenics*, neither the 2 treated with E.C.T. nor the 2 untreated cases improved at all.

(*b*) Of the 11 '*other schizophrenics*', the only remission was the spontaneous one of an 'acute schizophrenic episode'. Of the remaining 10 cases, E.C.T. was applied to 6 without any effect except in the 1 case which absconded from hospital on the day following his 4th convulsion.

(*c*) Of the 16 *paranoid schizophrenics*, 1 died, 2 made spontaneous remissions and 4 remitted in response to E.C.T. However, the remaining 9 did not respond favourably to E.C.T. and their mental condition remained unchanged.

Since larger numbers were dealt with in the 2 remaining sub-types, a percentage analysis of results is given.

(*d*) Of the 130 *catatonics*, 45 had remitted by May 1954 (35%), of which spontaneous remissions accounted for 21. Of the 97 catatonics treated with E.C.T., 24 (25%) made a favourable response. Of the 85 catatonics who did *not* remit, 78 were still mentally disordered, 6 had died and one had escaped.

(*e*) Of the 66 *hebephrenics*, 28 (43%) had remitted, of which spontaneous remissions accounted for 12. Of the 52 treated with E.C.T., 16 (31%) made a favourable response. There were 37 hebephrenics who by May 1954 were still mentally disordered, and one case had died.

## DISCUSSION AND COMMENT

(*a*) *The over-all outcome of these 227 schizophrenic admissions by May 1954 was that 35% of the cases had remitted.* Even if we assume that the cases which remitted spontaneously had undergone E.C.T. and still remitted, this percentage is still far below the figures given in most parallel studies of the outcome of schizophrenic first admissions treated with E.C.T.

One suggestion for this poor remission rate is that *the type of case in hospital was the chronic one, in which the prognosis is worst.* This occurs despite the fact that there are few facilities available for the treatment of Bantu psychotics other than those in our mental hospitals. This means that the majority of cases coming to hospital do so virtually to be institutionalized, and that they thereby block beds from which acute and more treatable cases have to be turned away.

(*b*) *The evaluation of prognosis* in these male Bantu schizophrenics was a difficult problem. As histories were

unobtainable in the majority of cases, most of the previously-mentioned prognostic criteria could not be used.

However, one feels that the figures in this study—showing the difference in outcome between the 'noisy and excited' and 'quiet and withdrawn' groups of cases—would suggest a possible prognostic criterion for male Bantu catatonics and hebephrenics.

From Table IV it may be seen that of the 45 catatonics who remitted, 32 were of the 'noisy and excited' group, while of the 28 hebephrenics who remitted, 24 belonged to this group.

Further, it was pointed out that of the total number of 'noisy and excited' catatonics 55% remitted, as compared with the 18% for the 'quiet and withdrawn' group. Also, that of the total number of 'noisy and excited' hebephrenics, 57% remitted as compared with 17% of the 'quiet and withdrawn' group.

In other words, nearly 77% of the remitted catatonics and hebephrenics were in the 'noisy and excited' group (56 out of 73 remissions). Proportionately, more than 3 times as many of the 'noisy and excited' cases of both sub-types remitted as of the respective 'quiet and withdrawn' cases.

From these figures, then, it would appear that in both sub-types under consideration, *the more 'noisy and excited' the general behaviour of the patient in hospital, the better his chance of remission, both spontaneously and with E.C.T.*

(c) *Contrary to the figures found in most comparative studies, the response of the hebephrenic, both spontaneous and with E.C.T., was better than that of the catatonic.* The figures of the hebephrenic remissions approach more closely the figures given in European studies. I suggest a possible explanation for this:

It was observed that, while in hospital here, the hebephrenic was generally more 'noisy and excited' than the catatonic. If we accept that the general behaviour of the patient in hospital is some reflection of his behaviour outside before admission, then it is likely that the hebephrenic will appear 'abnormal' to the lay and untutored eye more quickly, and over longer periods, than the generally more taciturn and withdrawn catatonic. The hebephrenic will thus be sent into hospital at an earlier stage than will the catatonic, who is usually admitted after sporadic rather than continual outbursts of violence or excitement. The immediate prognosis for the hebephrenic will therefore be more favourable.

## SUMMARY AND CONCLUSIONS

A total number of 227 male Bantu schizophrenics admitted to Weskoppies Hospital between December 1952 and February 1954 have been studied.

The outcome of these cases by May 1954 is reported, and the results given of electro-convulsive therapy (E.C.T.) in 170 of these cases.

The high proportion of schizophrenics in the male Bantu first admissions to this hospital (57.5% of total admissions in this study), together with their relatively poor remission rate (35%), makes the problem of schizophrenia in the male Bantu in this hospital a far greater one than in the European.

Differences between male Bantu and European psychiatric practice in South African mental hospitals are mentioned.

General principles of prognosis in schizophrenia are discussed.

It is suggested that a general pattern of ward behaviour, which may be described as 'noisy and excited', is a favourable prognostic indication in male Bantu catatonics and hebephrenics.

Thanks are due to Dr. I. R. Vermooten, Commissioner for Mental Hygiene, for permission to publish this article, and for his useful criticism. I am also grateful to Dr. B. P. Pienaar, Physician-Superintendent of Weskoppies Hospital, for permission to use the case material, and for his interest and advice; and to Professor G. Elliot of the Department of Medicine, University of the Witwatersrand, with whom I discussed this paper and who made several suggestions that were extremely helpful.

## REFERENCES

1. Annual Reports of the Commissioner for Mental Hygiene 1949, 1950, 1951. Government Printer. U.G. Nos. 27/1951, 19/1952, 11/1953.
2. Lamont, A. M. and Blignault, W. J. (1953): S. Afr. Med. J., **27**, 637.
3. Coleman, J. C. (1950): *Abnormal Psychology and Modern Life*, p. 266. New York: Scott, Foresman & Co.
4. Lengyel, B. A. (1941): Amer. J. Hyg., **33**, 16.
5. Bellak, L. (1946): *Dementia Praecox*, 2nd ed., p. 401. New York: Grune and Stratton.
6. Impastato, D. J. and Almansi, R.: Quoted by Kalinowsky, L. B. and Hoch, P. H. (1946): *Shock Treatments, Psychosurgery and other Somatic Treatments in Psychiatry*, 2nd ed., p. 187. New York: Grune and Stratton.
7. Ross, J. R. and Malzberg, B. (1939): Amer. J. Psychiat., **96**, 297.
8. Cook, L. C.: *Quoted by* Kalinowsky, L. B. and Hoch, P. H. (1946): *loc. cit.*,[6] p. 189.

# GENITO-PERITONEAL TUBERCULOSIS — A REVIEW OF 26 CASES

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This review is concerned with 26 cases of genito-peritoneal tuberculosis admitted to the Gynaecological Unit, Groote Schuur Hospital, Cape Town, in the last 5 years. Only cases showing definite histological or bacteriological evidence of tuberculosis are included. (During the same period, 12 cases were admitted to the Unit with the clinical diagnosis of genital or peritoneal tuberculosis, without confirmatory laboratory evidence of local tubercle, though they each had a proved tuberculous lesion elsewhere in the body. Of these, 8 were diagnosed as tuberculous peritonitis and 4 as tuberculous salpingitis.)

Particulars of the 26 cases are shown in Table I.

INCIDENCE

The incidence of proven genital tuberculosis was found to be 0.28% of the total number of cases admitted to the gynaecological wards. This figure is considerably lower than those reported from other centres (0.4-2%, Sutherland,[19] and 0.56%, Russel *et al.*[15]). If the unproven cases are included in the series, the incidence rises to 0.4% of admissions, and this is probably nearer the true figure. It is of interest that 22 of the cases recorded occurred in non-European patients, and all but 4 of these were Cape Coloured.

From the racial point of view incidence varied greatly: of non-European patients it was 0.5% and of Europeans only 0.1%. Nothing could be found in the literature regarding racial differences, and in an attempt to decide the significance of these figures they were compared with the notification rate of pulmonary tuberculosis in the City of Cape Town [23] in 1951. In that year the incidence was 0.96 per 1,000 for European females and 5.56 per 1,000 for non-European females. It appears, therefore, that the relative incidence of genital tuberculosis in the 2 racial groups is fairly closely parallel to that of pulmonary tuberculosis.

The age incidence in this series was unusually wide, ranging from 2 years to 72 years. Twenty cases fell in the age-group 20-39 and 5 were over 40 years.

*Primary Infection.* *Cases* 1 and 2 are examples of primary genital tuberculosis. In both instances the primary complex developed on the vulva, with enlargement of the inguinal glands.

*Case* 1. Native aged 2 years, was admitted to the ophthalmic ward with bilateral conjunctivitis and corneal opacities. She was a weak backward child and was still on the breast.

On examination, the inguinal glands were enlarged and tender, and there was a deep ulcer the size of a threepenny piece at the vaginal orifice. Chest X-ray was negative. A snip from the ulcer showed the histological appearance of tuberculosis, and guinea-pig inoculation was positive.

Streptomycin, ½ g. twice daily, was given for 6 weeks. At the end of that time the ulcer was healed, although the inguinal glands had not decreased in size and one had started to soften. A block dissection of the superficial inguinal glands was then carried out and the patient made a very good recovery.

*Case* 2 was an example of the rare hypertrophic type of genital tuberculosis. It has been reported by Benjamin and Charnock.[5]

*Secondary Infection.* Genital tuberculosis is generally a secondary infection from either the lungs or glands, which is thought to take place during the stage of bacteraemia following development of the primary focus.[2] The disease-process may remain latent in the pelvis for a long time. Stallworthy [9] maintains that in 50% of cases a history can be obtained of a tuberculous infection elsewhere in the body, usually in the lungs, but sometimes in the abdomen or glands. A family history of tuberculosis can be obtained in 20% of cases. Goodall[7] maintains that a primary focus can be found in 90% of cases, although this figure seems to be too high. In this series 5 cases showed pulmonary lesions, of which 3 were quiescent; no primary focus could be discerned in the other 21 cases.

SITE OF LESION

The following situations were involved in this series:

| | |
|---|---|
| Vulva | 3 |
| Vagina | 1 |
| Cervix | 3 |
| Endometrium | 10 |
| Tubes | 4 |
| Peritoneum | 4 |
| Generalized genito-peritoneal | 4 |
| Pelvic abscess | 1 |
| Abdominal sinus | 1 |

*Fallopian Tubes.* It is generally accepted that the tubes are affected in most cases of genital tuberculosis [4, 11, 19] and are responsible for the spread of infection to the endometrium and the cervix. The infection is bilateral in 90% of cases.[4] The figure given here represents only tubes that were removed and therefore available for histological study.

*Endometrium.* There were 10 cases of endometrial involvement, i.e. 40% of the series. This agrees reasonably closely with the figures given by other writers (40-75% Sutherland,[18] and 50-60% Jedburg [11]). Of these 10 patients 9 were married; 4 had children; and 4 had attended for investigation of infertility. The ages ranged from 32-72 years; 2 patints were past the menopause and 6 were between 32 and 35. The average age was 40.

Fibroids were associated in 2 of these cases and adenomyosis in one other. The association of fibroids and tuberculous endometritis has been reported occasionally; Cetroni [6] reported 8 cases. It appears to be a fortuitous combination, however, discovered usually on routine examination of operation specimens.

According to Sutherland,[18] tuberculous endometritis may be of 3 types: (1) part of a widespread genital infection, (2) gross infection confined to the body of the uterus, or (3) isolated tubercles scattered throughout the endometrium. Sutherland considered type (3) the commonest and described 33 cases of it, compared with 1 case only of type (2).

Of the 10 cases now under review, 8 were of type (3) and 2 of type (2). It is perhaps significant that the 2 type (2) cases occurred in multiparous post-menopausal women. Tuberculous endometritis is not common after the menopause: in their review of 40 cases, Russel *et al.*[15] reported one patient aged 60 years who developed genital tuberculosis secondary to a pulmonary lesion. Neither of the type (2) patients had pulmonary tuberculosis. The particulars of the 2 cases follow:

*Case* 12, European aged 72, was admitted complaining of a blood-stained vaginal discharge for 9 months. On curettage the endometrium was found to be largely replaced by tuberculous follicles. Unfortunately this patient refused operation and left the hospital.

*Case* 5, Coloured aged 54, who had had 12 full-term pregnancies, was admitted complaining of a thick, yellow irritating discharge following the menopause 3 years before. She had a large cervical erosion, which bled readily on contact; a snip was taken from this. The rest of the pelvic organs appeared normal. Chest X-ray was negative. The cervical snip showed numerous tuberculous follicles. A total hysterectomy and bilateral salpingo-oopherectomy was performed. Examination of the specimens showed extensive tuberculous endometritis and cervicitis with no involvement of the tubes or ovaries.

*Cervix.* Tuberculous cervicitis is usually associated with tuberculous endometritis and is the result of a

descending infection from the tubes.[7, 12] The other possibility is a primary infection following inoculation of infected semen. A few cases of this latter type have been reported, but it is difficult to exclude a sub-clinical infection elsewhere in the body.[7] *Case* 4 might have been a primary infection as no tuberculosis was found in the endometrium.

*Vulva.* The commonest situation for a primary genital infection is the vulva, which is involved in 0.5-2% of cases of genital tuberculosis.[11, 19] In this series, cases 1 and 2 were almost certainly primary infection and have already been discussed. *Case* 3 might also have been a primary infection, notwithstanding the small healed focus found in the lungs at the right apex. There was an ulcer present on the vulva and a cervical erosion, but no evidence of endometrial involvement. This patient did very well initially on streptomycin therapy, and a year after treatment there was no evidence of disease. Two years later there was a recurrence of the cervical lesion and a total hysterectomy was performed under cover of a streptomycin 'barrage'.

*Peritonitis.* Tuberculous peritonitis is associated with genital tuberculosis in 30-40% of cases of the latter.[6, 11] It is associated with a very much higher fertility rate than tuberculous endometritis.[20]

*Generalized Disease.* There were 8 cases of peritonitis and generalized pelvic tuberculosis. In 4 of these, of which 2 were fatal, symptoms dated from parturition. Sutherland [20] states that of 60 cases of genital tuberculosis he examined, 6 dated their history from pregnancy or the puerperium. Russel *et al.*[15] report the same incidence.

Earlier writers were well acquainted with the phenomenon of genital tuberculosis following pregnancy or parturition and describe it as an acute, widespread and usually fatal disease. *Case* 19 and *case* 22 fall into this category. In *case* 17 and *case* 18, the disease was less acute. In *case* 17 the abdomen was opened for an ectopic pregnancy with a history of abdominal pain, amenorrhoea and vaginal bleeding. At operation the peritoneum and both tubes were found to be studded with tubercles. Right salpingectomy was performed and the histology was that of tuberculous salpingitis. This patient had no treatment and was seen 4 years later in very good health and 3-months pregnant.

*Case* 18, 5-months pregnant, was admitted with a history of lower abdominal pain and distension for 4 months. Free fluid was present. The diagnosis of tuberculous peritonitis made at operation was confirmed histologically and bacteriologically. The patient aborted after laparotomy; unfortunately the foetus and placenta were not available for examination. She was treated with para-amino-salicylic acid (PAS) and streptomycin post-operatively and made a good recovery.

## DIAGNOSIS

The diagnosis of pelvic tuberculosis may be difficult. Commonly it is missed because it is not considered. Careful questioning will often elicit a family or personal history of tuberculosis. A fair number of cases have infertility as their only complaint; it has been estimated that in infertile women the frequency with which pelvic tuberculosis is found is 15 times as great as in other women.[3] In other cases the condition is discovered on routine examination.

The commonest gynaecological complaint is irregular and often excessive *vaginal bleeding*. This was seen in 6 patients in this series. Bouts of bleeding may alternate with spells of amenorrhoea; which necessitates differentiation from abortion, dysfunctional uterine bleeding and ectopic gestation. Amenorrhoea is rarely seen except when associated with a general tuberculous infection. *Vaginal discharge* was a presenting symptom in 7 cases in this series and is particularly associated with cervical infection. The lesion on the cervix may resemble a simple true erosion, a false erosion or carcinoma.

*Pain* is an uncommon symptom but a heavy ache in the pelvis and backache are not uncommon.

*On clinical examination* the pelvis may appear normal, or masses may be palpable, which are usually adherent but may be mobile and mistaken for ovarian cysts. In *case* 26 a mobile tube underwent torsion and presented as an abdominal emergency.

If tender thickened tubes are detected in patients complaining of infertility, tests for tubal patency should be postponed until the endometrium has been examined. In every case where genital tuberculosis is suspected a curettage should be performed in the immediate pre-menstrual phase and the curettings sent for histological examination and for guinea-pig inoculation.[8]

Hystero-salpingography is stated to give a typical picture—either a rigid pipe-line tube or else an irregular tubal outline with numerous filling defects.[11] It carries a small risk, which is least where a water-soluble contrast medium is employed. Salpingography was performed only once in this series (*case* 11); it showed bilateral tubal occlusion in a tube with an irregular lumen. Insufflation was performed once (*case* 13) and the tubes were found to be patent. Examination of menstrual blood for tuberculosis by culture on artificial media or by guinea-pig inoculation has been tried, though not in any case in this series; the recorded percentage of positive results has not been high.

## TREATMENT

As with tuberculosis elsewhere in the body, sanatorium and general treatment is of the utmost importance. Cures with this regime alone are, however, rare and genital tuberculosis has actually developed during the course of sanatorium treatment in patients with pulmonary lesions. Even where the disease is apparently quiescent, blood-spread to different organs may occur.

Operative treatment ending in fistula was the cause of much suffering in former times. Nowadays operations are performed under an 'umbrella' of streptomycin. Radical surgery is necessary to avoid cutting through infected tissue, and Stallworthy [9] recommends that total hysterectomy and bilateral salpingo-oopherectomy should be performed. Other writers prefer to conserve the ovaries where possible—the ovaries are rarely involved except as part of a tubo-ovarian abscess. In an attempt at less radical surgery Sharman [17] performed salpingectomy on 3 cases of endometritis, hoping that with the source of infection eliminated, the endometrium would heal spontaneously. None of his cases were cured; but it is to be noted that he failed to remove the inter-

TABLE I. PARTICULARS OF 26 CASES OF PROVED GENITO-PERITONEAL TUBERCULOSIS ADMITTED TO THE GYNAECOLOGICAL UNIT, GROOTE SCHUUR HOSPITAL, CAPE TOWN, IN A RECENT PERIOD OF 5 YEARS

| Case | Age | Race | Marital Status | Parity | Site of Disease | Treatment | Presenting Symptoms and Other Details |
|---|---|---|---|---|---|---|---|
| 1 | 2 | N | S | 0 | Vulva<br>Inguinal gl. | SM and removal of gl. | Grossly undernourished. Ulcer on labium 6 m. Inguinal gl. +. Corneal ulcer and keratits. Lungsi clear. SM 1 g. b.d. 6 w, followed by inguinal lymphadenectomy. |
| 2 | 23 | C | S | 0 | Vulva<br>Inguinal gl. | SM | Thin but general condition good. Growth on vulva. Bl.-st. vulval disch. 2 m. Lungs clear. Endometrium ng. on curettage. Cervix healthy. Adnexa not palpable. SM 0.5g. b.d. 6 w. No evidence of ulcer or gl. after 2 m. |
| 3 | 39 | E | S | 0 | Vulva<br>Cervix<br>R lung | Excision of ulcer<br>SM | Yellow vaginal disch. 5 m. Ulcer L side vulva 3 m. Loss of weight. (Myomectomy and cervical cautery 9 m before admission.) Small healed focus apex R lung. Endometrium neg. on curettage. SM 0.5g. b.d. 9 w. Good immediate result, but condition on cervix recurred and 2 y later hysterectomy performed. |
| 4 | 39 | C | M | 7 FT | Cervix | Nil (patient disappeared) | Leucorrhoea and dysmen. 7 y. Post-coital bleeding 9 m. Endometrium neg. on curettage. Adnexa not palpable. No X-ray of lungs. |
| 5 | 54 | C | M | 12 FT<br>1 abort. | Cervix<br>Endometrium | Removal of uterus and adnexa. SM | 3 y post-menopausal. Pain in RIF 11 y. Leucorrhoea 3 y. Large cervical erosion only. Lungs clear. No T of tubes or ovaries. Total hysterectomy and bilateral salpingo-oophorectomy. SM 0.5g. b.d. 4 w. Result good. |
| 6 | 32 | C | M | 0 | Endometrium<br>Salpinx | Removal of uterus and adnexa | Menorrhagia and dysmen. many years, increasing. Fibroids diagnosed. Subtotal hysterectomy and R salpingo-oophorectomy. Routine section showed T of endometrium and of interstitial part of tube. No X-ray of lungs. Result good. |
| 7 | 40 | C | M | 0 FT<br>1 abort. | Endometrium<br>Salpinx | Removal of fibroid and fundus | Pains in back and RIF 2 w. Vaginal disch. Large fibroid uterus. Myomectomy and removal of fundus uteri on L side. Routine section showed T of endometrium and of excised portion of tube. No X-ray of lung. Result fair. |
| 8 | 42 | C | M | 4 FT | Endometrium | Blood transfusion | Increasing menorrhagia and dysmen. following 5 m. amenorrhoea. Very pale. Chest clear. Refused operation. |
| 9 | 35 | C | M | 0 | Endometrium | SM and PAS | Thin but general condition good. 2 w vaginal bleeding following 1 m amenorrhoea (thought to be incomplete abortion). Cervix healthy. Adnexa not palpable. Chest clear. SM 1g. daily 60 d. PAS 16 tabs. daily 60 d. Gained weight. No evidence of T 3 m later. |
| 10 | 45 | C | S | 0 | Endometrium | Subtotal hysterectomy<br>SM and PAS | 3 m menorrhagia and dysmen. following 6 m amenorrhoea. Large fibroid uterus. SM 1 g. daily 60 d. PAS 16 tabs. daily 60 d. T of endometrium discovered on routine section. Tubes macroscopically normal. Chest clear. Well on discharge; has not come for follow-up. |
| 11 | 35 | N | M | 0 | Endometrium | SM and PAS | Thin but general condition good. Lower abd. pain 2 y. Adnexa thickened and tender; tubal occlusion on salpingogram. Chest clear. Refused operation. SM 1g. daily 60 d. PAS 1g. daily 60 d. Feels better, but tubercles still present in endometrium 3 m after treatment. |
| 12 | 72 | E | M | 8 FT<br>2 abort. | Endometrium | Nil | Bl.-st. vaginal disch. Prolapse. 21 y menopausal. Very heavy T infection found on curettage. Chest clear. Refused operation. No change. |
| 13 | 34 | E | M | 0 | Endometrium<br>Lungs | SM and PAS | Menorrhagia and dysmen. Bilateral apical disease, quiescent (had pulm. T 7 years before.) Tubes patent on insufflation. T endometritis found on curettage. SM 1g. daily 6 w. PAS 16 tabs. daily 6 w. Menorrhagia improved. No histological evidence of T 9 m later. |
| 14 | 34 | E | M | 4 FT<br>1 abort. | Endometrium | SM | Menorrhagia and metrorrhagia 6 m. Leucorrhoea. Right adnexa thickened. Chest clear. 2 courses SM, each 0.5g. b.d. 6 w. No histological evidence of T 1 y later. |
| 15 | 26 | C | S | 0 | Salpinges | Salpingectomy | Lower abd. pain and backache for years. Pain in RIF 3 m. Episode of acute pain and vomiting 1 d. Bilateral salpingectomy: adhesions but not tubercles in peritoneum. Chest clear. Disch. apparently fit. |
| 16 | 32 | C | M | 0 | Peritoneum<br>Lungs | SM and PAS<br>Laparotomy | Dull ache in lower abd. for months. Mass palpable above pubis (thought to be fibroids). At operation a dense mass of adhesions was discovered between gut and pelvic organs; T bacilli in snip. Chronic fibroid phthisis. SM 1 g. daily 6 w. PAS 36 tabs. daily 6 w. 4 m later wound well healed; appeared fit. |
| 17 | 23 | C | M | 1 FT<br>2 abort. | Peritoneum<br>Lungs | Salpingectomy | Poor health. Pneumonia before last abort. 3 m ago. Tender cystic mass on one side (thought to be an ectopic pregnancy). Right salpingectomy: pelvic peritoneum studded with small tubercles. Confirmed histologically. Early lesion apex R lung. Well after operation. FT pregnancy 4 y later. |
| 18 | 32 | C | M | 1 FT | Peritoneum | Laparotomy<br>SM and PAS | 5 m pregnant. Emaciated. Lower abd. pain 4 m (had some pain with 1st pregnancy). Distended with free fluid. Laparotomy; T bacilli in snip, and fluid culture positive. Chest clear. SM 1g. daily 6 w. PAS 36 tabs. daily 6 w. Aborted after laparotomy and infant died soon after birth. |
| 19 | 32 | C | M | 6 FT<br>1 abort. | Peritoneum | Antibiotics<br>Blood transfusion | Emaciated and toxic. 3 m abort. 6 m ago, followed by abd. pain, pyrexia, vaginal bleeding, dysuria and frequency. In bed 2 m. Penicillin, streptomycin, aureomycin, terramycin, ilotycin, chloromycetin. Died after 18 d. PM—T peritonitis with numerous fistulae in gut. Healed focus in lungs. |
| 20 | 32 | N | M | 1 FT | Generalized peritoneo-genital T | SM and PAS<br>Laparotomy<br>Radio-Therapy | Ill and emaciated. Failing 1 y. Vaginal disch. and lower abd. pain 6 m. Cervical erosion present. Caseous T found on curettage and cervical snip. Hysterectomy attempted but dense peritoneal adhesions made it impossible. Chest clear. SM 1g. daily 6 w. PAS 36 tabs. daily 6 w. Very much improved. |
| 21 | 20 | C | M | 0 | ditto. | Laparotomy<br>SM and PAS | Difficulty in emptying bladder 2 y, increasing. Menorrhagia and dysmen. Laparotomy (for supposed ovarian tumour) revealed T peritonitis with thick adhesions to all the pelvic structures. Much improved. |
| 22 | 22 | C | M | 1 FT | Generalized T | Terramycin, Penicillin and SM | Ill and toxic; admitted from maternity hospital after laparotomy for secondary abd. pregnancy. Developed meningitis and died. PM—basal meningitis, miliary tubercles on peritoneum and in lungs. |
| 23 | 21 | C | M | 1 FT | Generalized T<br>Lungs | Laparotomy<br>SM and PAS | Thin and ill. 6 w amenorrhoea, severe abd. pain with fainting and vomiting (thought to be ectopic pregnancy). Bilateral apical T of lungs. Improved. Referred to municipality for treatment of pulmonary T. |
| 24 | 21 | C | M | 2 FT<br>2 abort. | Pelvic abscess | SM and PAS | Poor health. Referred from City I.D. Hospital with pelvic abscess. Colpotomy and T bacilli cultured. Chest clear. Developed generalized peritonitis after colpotomy; improved later, and referred back to City I.D. Hospital. |
| 25 | 28 | N | M | 0 | Parametrium<br>Vagina | SM and PAS | Poor health. Discharging sinus after appendectomy 7 y ago. Vaginal disch. 15 m. Tender parametrium. Dense granulations in vagina—snip showed T bacilli: no T bacilli cultured from pus from vagina or sinus. Last Report—Disch. much less but vaginal granulations still present. |
| 26 | 34 | C | M | 2 FT<br>1 abort. | Salpinx | Salpingectomy | Acute onset of pain 3 d before admission. Nausea. ?Torsion of ovarian cyst or ectopic pregnancy. Left salpingectomy (torsion of tube). T discovered on routine section. No X-ray of lungs. Result good. |

*Contractions:* E = European. C = Coloured. N = Native. M = married. S = single. FT = full-term. abort. = abortion. SM = streptomycin. PAS = para-amido-salicylic acid. gl. = glands. neg. = negative. y = years. m = months. w = weeks. d = days. L = left. R = right. bl.-st. = blood-stained. disch. = discharge or discharged. g. = grammes. b.d. = twice daily. RIF = right iliac fossa. T = tuberculosis. dysmen. = dysmenorrhoea.

stitial part of the tube, which is an essential part of the operation of salpingectomy for diseased tubes, as proved by Meave Kenny.

Antibiotics are being increasingly used with good results and in young patients are preferable to surgery. Radical surgery is indicated in cases which do not respond to antibiotics, in menopausal or post-menopausal women, and in cases where menorrhagia is severe. Fistulae which fail to heal must also be treated surgically.

Before starting treatment material should if possible be taken for guinea-pig inoculation and typing. The majority of genital infections appear to be due to the human bacillus, but no large series has so far been typed.[21]

Streptomycin was the first antibiotic to be used

Usually 1 g. a day is given for 6 weeks. Since the advent of PAS this latter has been used as well. It enhances the value of treatment and reduces the risk that streptomycin-resistance will develop. PAS is however poorly tolerated by some people. The dosage depends on tolerance; it is usually begun a month after the streptomycin. The immediate results that have been obtained from this treatment are encouraging, but before a case can be pronounced cured, a period of 2-3 years must elapse.

*Case* 3 is of interest in this respect. This patient was apparently cured of a tuberculous infection of the cervix for a year after treatment, but 2 years later the infection recurred and a total hysterectomy was performed. Proof of cure should be based on guinea-pig inoculation as well as histological examination and both these investigations should be negative at least 2 years after finishing treatment.

More recently reports have appeared of treatment with isonicotinic acid hydrazide (INH) (Rimifon).[1, 22] Bains *et al.*[1] treated 43 cases of endometritis and 3 of cervicitis with 150 mg. of Rimifon daily. There were apparent cures in 40 of the cases of endometritis and 2 of cervicitis. Although these cases have not been followed up for a sufficient period of time, the results appear good; one patient fell pregnant whilst undergoing treatment. Pregnancy in proven cases of tuberculous endometritis was unknown until 1952, when Sutherland and Raban[9] each reported one case following treatment with streptomycin.

Radiotherapy has a small place in treatment in those cases where surgery is contra-indicated on medical grounds. Opinions differ as to dosage, the majority preferring sub-sterilizing doses of about 50r.[12, 19] Only *case* 20 was treated by radiotherapy; she was given 1,000r with an apparently satisfactory result.

*Prognosis*

Genital tuberculosis is characterized by long periods of latency, and even after apparent cure prognosis must be guarded.

SUMMARY

Twenty-six cases of genital tuberculosis admitted to Groote Schuur Hospital, Cape Town, in the past 5 years are reviewed. They constitute 0.28% of the total admissions to the gynaecological unit during that period.

The incidence of tuberculosis was found to be 5 times as great in the non-European as in the European, and this reflects the higher incidence of pulmonary tuberculosis that is found in the coloured races.

The sites of the tuberculous lesions are described and discussed. Diagnosis depends on adequate investigation, particularly with regard to personal history of tuberculosis. Curettage with histological and bacteriological examination of the endometrium is essential.

Treatment has been revolutionized with the advent of the antibiotics, and surgery is reserved for post-menopausal patients and for those cases which do not respond to antibiotics.

Cure cannot be assumed until 2 or 3 years have elapsed. Prognosis in any case must be guarded.

I would like to acknowledge the help and encouragement given me by Professor J. T. Louw, Department of Obstetrics and Gynaecology, University of Cape Town, and to thank those who helped in tracing the records.

REFERENCES

1. Barns, T., Smith, H. G. and Snaith, L. M. (1953): Lancet, **1,** 817.
2. Barns, T. and Snaith, L. M. (1953): J. Obstet. Gynaec., **60,** 131.
3. Bamforth, J. (1950): *Modern Trends in Obstetrics and Gynaecology*, p. 454. London: Butterworths.
4. Brown O'Donel (1943): J. Obstet. Gynaec., **50,** 129.
5. Benjamin, F. and Charnock, F. (1949): S. Afr. Med. J., **23,** 667.
6. Cetroni, W. (1930): Ann. Ostet. Ginec., abstract.
7. Goodall, J. R. (1943): J. Obstet. Gynaec., **50,** 219.
8. Haines, M. (1951): Lancet, **1,** 436.
9. Haines, M., Stallworthy, J. and Sutherland, A. M. (1952): *Symposium on Genital Tuberculosis*, J. Obstet Gynaec., **59,** 721.
10. Halbrecht, L. (1946): Lancet, **1,** 235.
11. Jedburg, H. (1950): Acta Obstet. Gynec. Scand., **31,** supp. 1.
12. Murray, E. G. (1950): Obstet. Ginec. Lat.-Amer., **8,** 223.
13. Novak (1952): *Gynaecological and Obstetrical Pathology*, 3rd ed. Philadelphia and London: W. G. Saunders & Co.
14. O'Driscoll (1951): Lancet, **2,** 476.
15. Russel, P. M. G., Jackson, M. H. and Midgeley, R. L. (1951): J. Obstet Gynaec., **58,** 712.
16. Salmon, H. O. (1951): Lancet, **2,** 153.
17. Sharman, A. (1947): Brit. Med. J., **2,** 83.
18. Sutherland, A. M. (1943): J. Obstet. Gynaec., **50,** 161.
19. *Ibid.* (1950): Glasg. Med. J., **31,** 279.
20. *Ibid.* (1952): Proc. Roy. Soc. Med., **45,** 7 and 411.
21. Sutherland, A. M. and Garrey, M. A. (1951): Glasg. Med. J. **32,** 231.
22. Wolskel, H. H. and Barnet, V. H. (1952): J. Obstet. and Gynaec., **59,** 234.
23. Medical Officer of Health, City of Cape Town, Annual Report 1951).

# DIAGNOSIS AND MISDIAGNOSIS OF CARCINOMA

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Students are often told, and one is exhorted repeatedly in text-books to do so, to regard signs and symptoms appearing over the age of 40 years as due to carcinoma until proved otherwise. While it is true that carcinoma should take first place on grounds of commonness, it must not be forgotten that there are other conditions which may mimic carcinoma clinically, radiologically and at operation, and which are essentially benign There is a danger, moreover, when presented with a case simulating carcinoma to assume it to be carcinoma without proving or disproving the diagnosis. This may give rise to unnecessary fatalities by either denying treatment because of a hopeless prognosis or carrying out unnecessary procedures.

By way of illustration the following 3 cases are presented:

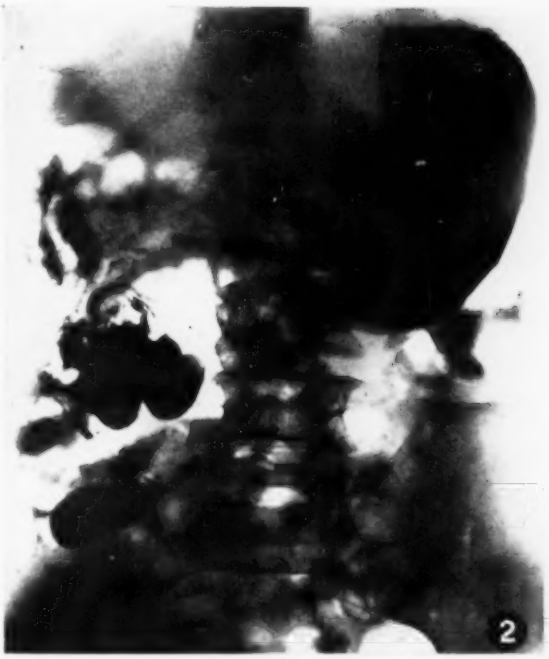
A male, aged 77 years, was admitted to hospital with a vague history of indigestion for several months. This did not bother him very much until 2 weeks prior to admission, when he began to suffer more severely. There was vomiting once or twice daily every other day, without blood or undigested food in the vomitus; flatulence, belching and heartburn were occurring intermittently; and anorexia had been wellmarked recently. His bowels had always been constipated and this was no worse than formerly.

*On examination* he was a wasted elderly man. Abdominal distention was present, maximal in both flanks and in the epigastrium. Rectal examination revealed no abnormality. The clinical diagnosis at that time rested between large-bowel obstruction, gastric neoplasm and chronic cholecystitis. Straight X-ray of the abdomen showed no abnormal shadows. He was kept under observation, and on the following day his abdomen was found to be more distended.

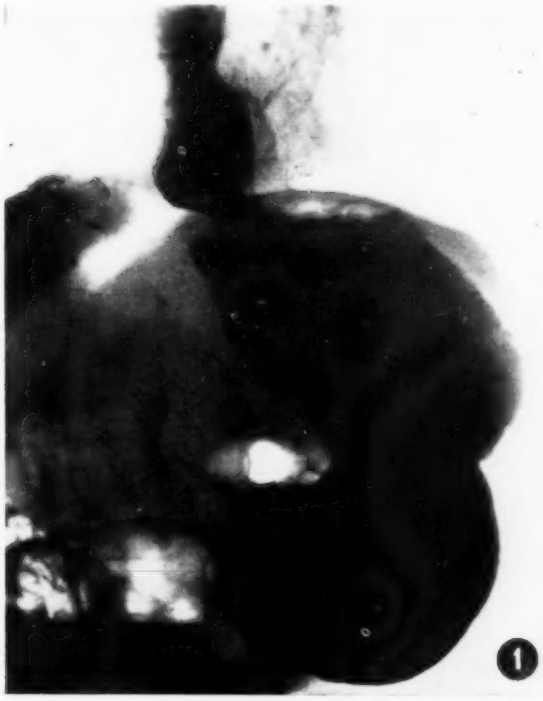
*Special Investigations: Sigmoidoscopy* showed no lesion up to 10 centimetres, beyond which the instrument could not be passed. With a *barium enema*, a satisfactory film was only obtained up to the middle of the transverse colon, but there was no evidence of obstruction distal to this. The *barium meal* showed considerable resting juice but no active ulcer. There was marked delay in emptying and there appeared to be an irregular obstruction present involving the pyloric antrum and suggestive of a neoplasm. Considerable residue was still present in the stomach at 24 hours (see Figs. 1 and 2).

The patient was therefore thought to be suffering from an advanced neoplasm of the stomach, and in view of his age and poor general condition it was considered that laparotomy was not justified. His condition deteriorated and he died soon afterwards.

*Post-mortem Examination* revealed extensive chronic cholecystitis which had produced so many adhesions in the region of the pyloric antrum that this structure was compressed and distorted to a degree resulting in obstruction. The mucous surface of the stomach showed no abnormality.




[Fig. 2. At 24 hours]




[Fig. 1]

It is obvious that a fatal termination could have been prevented here by timely laparotomy, since the cause of death was surgically remediable. It is noteworthy that a clinical diagnosis of chronic cholecystitis was considered prior to the barium meal but with the combination of an elderly emaciated male subject and a radiological picture highly suggestive of gastric carcinoma, this diagnosis was ruled out.

It is held therefore that in the absence of positive evidence of carcinoma every case is worthy of laparotomy no matter how strongly the available evidence suggests inoperability. By this means cases thought to be malignant and inoperable may well be found to be not only benign but also amenable to surgery.

A male, aged 49 years, was admitted to hospital complaining of lower abdominal pain which had commenced 3 weeks previously and been relieved for about a week by medicine prescribed by his doctor. The pain had recurred and for 2 days prior to admission it had been fairly severe. Originally it had commenced in the right iliac fossa, and then it had passed to the umbilicus, returning to the right iliac fossa, where it was now situated. He had had nausea but no vomiting.

On *examination*, the temperature was 98°F, the tongue was furred, and tenderness and moderate guarding were present in the right iliac fossa. Rovsing's sign was present; rectal examination revealed no abnormality. A diagnosis of acute appendicitis was made, and the patient was prepared for operation.

At operation, through a gridiron incision, a small amount of free fluid was found to be present. There was a mass at the caput caeci with omentum and terminal ileum adherent to it; this was

hard and irregular, with some superficial inflammation in the caecal wall. No enlarged mesenteric glands were found. The mass was thought to be a carcinoma of the caecum, although there were some points—namely the superficial inflammation of the caecal wall and the adherent omentum and terminal ileum—which suggested that it was inflammatory in origin. The appendix, terminal ileum and pelvis showed no lesions. However, on grounds of commonness the former diagnosis was made and the abdomen closed, as it was thought more advisable to carry out a hemi-colectomy as an elective procedure after adequate pre-operative preperation.

Two weeks later a right hemi-colectomy was performed with an end-to-side ileo-transverse colostomy.

*Pathological Report*: Macroscopically, there was an irregular thickening of the wall of the caecum with a scarred mucosa. Section of the thickened area showed no evidence of carcinoma. The histological report (on several sections of tissue, was: 'The external serosa shows a granulomatous reaction consisting of foci of variable numbers of foreign-body giant cells and plump young fibrocytes. In these foci are doubly refractile bodies resembling ? talc ? suture material. Some fat necrosis is also present. A similar but much less pronounced picture is occasionally present between superfical muscle bundles. The mucosa is normal, except in one area which shows a foreign-body giant-cell system. The sub-mucosa shows a fine fibrosis. There is no evidence of tuberculosis or malignancy. The suggestion is made that this is possibly a healed simple caecal ulcer.'

The patient's post-operative convalescence was uninterrupted and he was discharged 2 weeks after the operation.

Here again a diagnosis of carcinoma was erroneously made and an unnecessary and extensive operation performed.

The ileo-caecal region is a well-known site for various pathological conditions, and although carcinoma again takes first place as regards frequency, it is important that other conditions be kept in mind, namely ileo-caecal tuberculosis, Crohn's disease, actinomycosis, amoebiasis, and so on. It should be admitted *en passant* that perforating ulcers are very uncommon in the caecum.

It is fitting here to mention a physical sign which has been observed in several cases but which does not appear to have found mention in the standard surgical text-books. It is the intermittent appearance in the right illiac possa of a tensely cystic swelling, which in a matter of seconds reaches its maximal size of about an orange and just as rapidly subsides, when it is accompanied by audible gurgling. It is obviously related to such a degree of stenosis of the caecum and proximal ascending colon as to occasion momentarily a complete obstruction, which is overcome only when the pressure of the caecal contents rises sufficiently to force a passage. When observed, this sign is pathognomonic of stenosing carcinoma of the caecum.

It is suggested that when one is faced with an indefinite caecal lesion, a caecotomy should be performed through unaffected caecal wall in order to inspect the lumen. Should this be found to be normal, carcinoma can definitely be excluded. The objection to caecotomy is that one risks peritoneal soiling and post-operative peritonitis; but with the present-day pre-operative preparation and adequate packing off this risk should be minimal. Moreover, open anastomoses between the ileum and colon are performed freely nowadays without any fear of peritonitis. If a caecotomy shows a normal mucosa, biopsy of the peripheral portion of the lesion may enable the surgeon to establish the diagnosis.

It must be admitted that in some cases a hemi-colectomy is the correct treatment irrespective of whether the lesion is benign or malignant; but this is by no means invariably so. It is therefore suggested that if a combination of caecotomy and biopsy were resorted to, the incidence of hemi-colectomies would be reduced and more positive diagnoses would be made.

A woman, aged 70 years, was admitted to hospital complaining of abdominal pain and continuous vomiting of 24 hours' duration. The pain was colicky in nature, commenced in the hypogastrium, and spread to the rest of the abdomen. The bowels had become increasingly constipated for the previous 3 months.

On *examination*, the patient was pale and slightly dehydrated. Abdominal examination showed tenderness in both iliac fossae with some voluntary rigidity. There was a suggestion of a vague mass in the right iliac fossa. Rectal examination showed the presence of dark, tarry blood mixed with a small amount of bright red blood.

*Straight X-ray examination* of the abdomen revealed several small fluid levels present but no undue distension of the gut, and no definite evidence of intestinal obstruction. Calcified glands were present on the right side of the abdomen.

A provisional *diagnosis* of a large-bowel neoplasm was made, and the patient was treated conservatively by means of stomach aspirations and fluid replacement. She improved gradually and was able to dispence with a Ryle's tube, but she was kept under observation. The mass in the right iliac fossa became more obvious.

A *barium enema* showed the presence of diverticulosis in the large bowel (Fig. 3.) A persistent filling defect was shown in the caecum suggesting a neoplasm.

The patient was complaining persistently of pain in the right iliac fossa, and since it was thought this was almost certainly due to a neoplasm, laparotomy was performed. A mobile hard mass was found in the caecum, with two peri-colic glands. The liver was free from growths but there was a hard mass in the region of the left tube, which was thought to be of inflammatory origin and probably associated with the marked diverticulosis of the sigmoid colon.

A right hemi-colectomy was carried out with side-to-side ileo-transverse colostomy.


[Fig. 3]

Post-operative convalescence was good until 6 days after operation, when the patient suddenly collapsed, with upper abdominal pain. On examination the patient was markedly shocked and showed epigastric tenderness. As it was thought that the anastomosis was leaking, laparotomy was carried out under local anaesthetic. However, the anastomosis was found to be intact and there was no evidence of peritonitis. Her condition remained poor and she died the same day.

*Post-mortem examination* showed the cause of death to be pulmonary embolism.

The *pathological report* on the operation specimen showed 'no evidence of carcinoma. Calcified gland the size of a walnut attached to the outer wall of the caecum near the ileo-caecal valve. Section of caecum shows no significant abnormality, apart from chronic inflammatory cell infiltration of the mucosa. There is no definite evidence of malignancy,.

This case resembles the previous one, in that an erroneous diagnosis of carcinoma was made and hemicolectomy performed. The end-result was unfortunately fatal.

Here again it may be said that a caecotomy would have shown a normal caecum and rendered an extensive operation unnecessary.

SUMMARY

(1) Three cases are presented, all showing a strong clinical, radiological and—in two cases—operative similarity to carcinoma of the gastro-intestinal tract. All three were benign lesions.

(2) It is suggested that in the absence of positive evidence of neoplasm an exploratory laparotomy should be performed.

(3) In the ileo-caecal region, where the pathology is variable, it is suggested that more use should be made of caecotomy and biopsy rather than of routine hemicolectomy.

# KINKS, MAINLY URETERAL

R. CAMPBELL BEGG, M.D.(EDIN.), F.R.C.S.(EDIN.)

*Johannesburg*

'Don Quixote dug his spurs into his steed Rosinante, paying no attention to his squire's shouted warning that beyond all doubt they were windmills and no giants he was advancing to attack . . . But he went on, positive that they were giants . . . "O my goodness!" cried Sancho, "didn't I tell your worship . . . they were only windmills? Nobody could mistake them, unless he had windmills on the brain".'[1]

The traffic of the knights of the coiled serpent with giants has been, happily, more of the David than of the Don Quixote order. Many Goliaths of disease have succumbed to the sword of the Aesculapian chivalry. Yet some of the resolute attacks on the presumptive giants of pathology have turned out to be misplaced assaults on the harmless windmills of physiology. The knights of the orders of Nitze and Röntgen, the urologists and the radiologists, have shared alike in the victories and the lapses. Of the former there are many; among the latter, side by side with the myth of the dropping kidney [2] lies the fiction of the ureteric kink. The 'kink' theory was much in vogue following the introduction of the intravenous pyelogram a quarter of a century ago. To the radiologists and urologists of that day it was startling to see the segmented, interrupted and sinuous form of what had been conceived as a uniform and continuous tube. It was little wonder that to some enthusiasts, these phenomena seemed to open out a whole new field of pathology. Dilatations with massive bougies and even operations to straighten out the irregularities became the order of the day. The films used to come along with suggestive little inked arrows converging on any bend or narrow point with significant emphasis, useful to convince the recalcitrant patient and soften him up for any proposed corrective procedure.

It took some years for this conceptual kink to straighten itself out with the realization that the bends and angles as seen on the films were due to physiological causes or optical misinterpretations (3-dimensiona object portrayed on a flat film). I was under the impression that this was now universally recognized. It was, accordingly, with some surprise that I listened a few weeks ago to a young lady's description of an operation that had been recommended to her and emphasized, so she said, with the dire prediction that in 2 years the kidney would be destroyed unless immediate action was taken. The proposal was to make 'a little platform' to keep the kidney up and straighten out the ureter by a plastic operation. The patient was polysymptomatic, obviously neurotic and unhappy, and the pyelograms which she brought along showed nothing unusual except a normal 'psoas kink'. I advised against the operation as being more appropriate to plumbing than to the flexible structures of the human body! I do not know whether the operation ever took place. Making full allowance, however, for possible confusion in the patient's story, it did appear that some knight of the scalpel was giving his energies to assaults on windmills, and that some brief reference to the subject was not redundant.

A hairpin bend *per se* in a peristaltic tube offers no obstacle to the progress of the contents. If it did, what would pass the splenic flexure, the archetype of all bodily 'kinks'? Pathological kinks in which the two limbs are bound together, inhibiting movement and causing obstruction are, for all practical purposes, non-existent in the ureter. I have seen only two in several thousands or even tens of thousands of cases investigated. In one the etiology was obscure but the apex of the loop was drawn to the middle line and encased in dense fibrous tissue; in the other the ureter had been distorted by its firm attachment to a calcified lymphatic gland. In both these cases the obstruction

was obvious and, of course, relieved only by operation. The above observation excludes the region of the pelvi-ureteral junction, to which reference will be made presently.

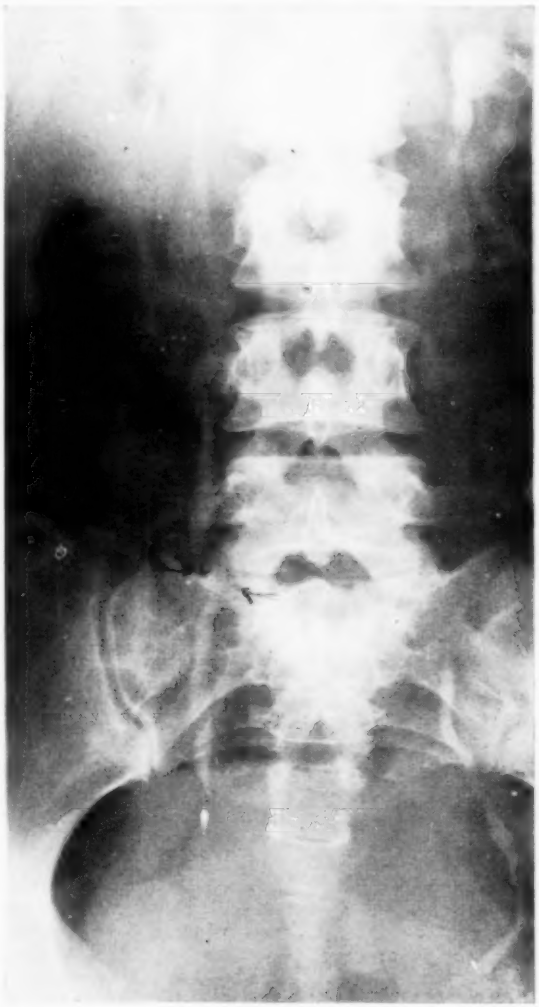
### PHYSIOLOGICAL

The occurrence of curves, angles and bends at fixed points in the ureter has a simple physiological explanation. Between the kidney and the bladder are a number of functioning segments each consisting of a detrusor-like portion and a sphincter. These were called 'cystoids' by Fuchs,[3] who first described them. The urine is rarely excreted by a continuous peristaltic wave. For the most part the cystoids empty into each other from above downwards. The kinks and bends as seen on the films occur round about the sphincteric portions, which are constant in position for each individual. They occur when the corresponding cystoid is discharging into the next below, a process which may take place with considerable violence. The contracting segment lengthens and overlaps the succeeding one. Any lag in the opening of the corresponding sphincteric portion or 'sphinctroid' accentuates the overlap, and kinks, S-bends, loops and angles appear on the films. There is commonly a sphinctroid about a centimetre below the pelvi-ureteral junction. The corresponding cystoid includes the pelvis itself . . . This pelvic sphinctroid may contract so tightly that there is an actual break in the continuity of the shadow, and this may occur at the very summit of a hairpin loop—an appearance which, despite a prevalent interpretation, rarely or never indicates the presence of a constricting aberrant artery.

Apart from actual physiological 'kinks', there is frequently the appearance of angulation where none in fact exists. This is especially so about the upper part of the ureter. The medial surface of the kidney, from which the ureter arises, nuzzles against the vertical escarpment of the psoas, which rises steeply from the quadratus. This arrangement may compel the first section of the ureter to pass backwards or forwards to reach its destination on the anterior surface of the psoas. Its course is not constant and is determined by its own varying positions and by the bulging or flattening of the active muscle on which it rests. Certain short segments of the duct come towards or recede from the observer and are seen end-on. In these circumstances what is actually a gentle curve becomes portrayed as a sharp angulation, often with a dense opacity at the knuckle resembling a calculus. All the ureteral bends and curves arising in the region of the pelvi-ureteral junction have been classified as psoas kinks. They form a very regular feature in normal pyelograms.[4]

### PELVI-URETERAL JUNCTION

The optical illusion due to the portrayal of a 3-dimensional object on a 2-dimensional surface, together with looping and angulation at the junction of 2 functioning segments, accounts for practically all 'kinks' in the ureter. It is true that definite pathological conditions do occur about the pelvi-ureteral junction. Chief among these is the high implantation of the ureter, which, in the first inch or so of its course, is bound by by fibrous tissue to the renal pelvis. Such a state of affairs produces an obvious hydronephrosis, usually congenital, and, if uninfected, painless. Very rarely there are fibrous bands or even aberrant vessels over which the ureter is looped. The occurrence of these has been disputed, it being maintained that the hydronephrosis is primary. I have, however, seen one or two undoubted examples in which the vessel was the constricting factor. Few urologists, I expect, have seen more in a lifetime of practice. Such true pathological obstructions cause localized colic and, as a rule, dilatation of the proximal ureter. The common 'kink' causes neither, though there may be associated pains from ureteritis, neurosis or other cause. This pseudo-pathological conception has been abandoned by most, and it is time its



A normal intravenous pyelogram showing segmentation and a 'kink'.

falsity received general recognition. Nothing could be more whimsical than operating on an optical illusion!

SUMMARY

Many of the X-ray appearances which have from time to time been considered as diagnostic of an obstructive aberrant artery, a fibrous constricting band or a 'kink' are in fact not indicative of pathology at all. Any treatment based on the contrary assumption is unjustified.

REFERENCES

1. Cervantes: *The Adventures of Don Quixote* (Cohen's translation), p. 68. London: Penguin Books.
2. Begg, R. C. (1950): S. Afr. Med. J., **24**, 690.
3. Fuchs, F. (1936): Z. Urol. Chir., **36**, 169 and **37**, 154.
4. Begg, R. C. (1946): Brit. J. Urol., **18**, 176.

## CLINICAL ESSAY COMPETITION: A SECOND PRIZE

The Sir Charles Hastings Clinical Prize Essay Competition established by the British Medical Association for the promotion of systematic observation, research and record in general practice has been extended by the addition of a second prize known as the Charles Oliver Hawthorne Clinical Prize.

The regulations governing the awards are as follows:

1. The Sir Charles Hastings Clinical Prize, consisting of a certificate and £75, will be awarded for the best essay submitted.

2. The Charles Oliver Hawthorne Clinical Prize, consisting of a certificate and £50, will be awarded for the second best essay submitted.

3. Any member of the British Medical Association who is engaged in general practice is eligible to compete for these Prizes.

4. The work submitted must include personal observation and experiences collected by the candidate in general practice, and a high order of excellence will be required. If no essay entered is of sufficient merit no award will be made. Candidates in their entries should confine their attention to their own observations in practice rather than to comments on previously published work on the subject, though reference to current literature should not be omitted when it bears directly on their results, their interpretations and their conclusions.

5. Essays, or whatever form the candidate desires his work to take, must be sent to the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1, not later than 31 December 1954.

6. A Prizewinner in any year is eligible for an award of either of the prizes in any subsequent year. A study or essay that has been published in the medical press or elsewhere will not be considered eligible for a prize, and a contribution offered in one year cannot be accepted in any subsequent year unless it includes evidence of further work.

7. If any question arises in reference to the eligibility of the candidate or the admissibility of his or her essay the decision of the Council on any such point shall be final.

8. Preliminary notice of entry for this Competition is required, on a form of application to be obtained from the Secretary of the British Medical Association.

9. Each essay, which should be unsigned, must be typewritten or printed on one side of the paper only and accompanied by a note of the candidate's name and address.

10. No definite limits are laid down as to the length of essays, but the Council anticipates that for this Competition essays should consist of between 3,000 and 10,000 words.

11. Inquiries relative to the prizes should be addressed to the Secretary, British Medical Association House, Tavistock Square, London, W.C.1.

## ASSOCIATION NEWS : VERENIGINGSNUUS

### ANNUAL MEETING OF GRIQUALAND WEST SUB-GROUP

At the Annual General Meeting of the Griqualand West Sub-Group of the National Group of General Practitioners of the Medical Association of South Africa, held on 15 June 1954, Dr. S. Perel who was in the Chair gave a brief review of matters affecting General Practitioners since the last meeting.

Dr. J. P. Collins proposed that Clause 3b of the Amended Constitution be deleted entirely and that Clause 16 read 'within 14 days'. This was unanimously agreed to, and Dr. Collins was instructed to bring these matters before the annual general meeting of the National Group at Port Elizabeth during Congress Week.

The following Office bearers were elected: Chairman: Dr. J. E. Vaughan Jones; Sec/Treasurer: Dr. I. Hammar; Committee: Drs. S. Perel, J. A. Kieser, H. F. Lowenthal, J. H. Kretzmar, J. Long and U. F. MacKenzie.

At a subsequent meeting held on 6 July 1954 with Dr. J. E. Vaughan Jones in the chair, Dr. J. P. Collins reported on the general meeting in Port Elizabeth. He stated that his proposal for the deletion of Clause 3b from the Constitution had been rejected and that in Clause 16, the proposal, that the words 'within 14 days' replace 'within 30 days' had been accepted.

Furthermore re control—it was decided that the National Committee be elected by branches or sections, each branch having 1 (one) member for the first 50 (fifty) and thereafter 1 (one) member for every additional 100 (one hundred) or major portion thereof.

Dr. Collins felt that the importance of the Specialist Register should be explained to all G.P.'s and a proposal by Dr. Perel that all G.P.'s in the District should be circularized with the aim of increasing membership (which was very poor at present) was carried.

Dr. Tandy felt that it should be found out early who the prospective representative on Medical Council was to be, and that full support should be given to him.

The Group's thanks were expressed to Dr. Collins, for attending the general meeting in addition to his other duties during Congress Week.

## PASSING EVENTS : IN DIE VERBYGAAN

*Dr. Stephen Eisenhammer*, F.R.C.S.(Eng.), left for London on 28 July. He will be away for 2 months.

* * *

*Mr. J. G. Bickerton*, M.Ch.(Orth.), F.R.C.S., late Consulting Orthopaedic Surgeon of the Liverpool Regional Hospital Board (Chester area), has joined Mr. R. C. J. Hill in partnership at 917, Salisbury House, West Street, Durban.

* * *

*WHO Regional Meetings.* WHO Regional Meetings are being held as follows during 1954: Africa—Leopoldville, Belgian

Congo, 20—25 September; The Americas: Santiago, Chile, 7—22 October; South-East Asia: New Delhi, India, 21—22 September; Western Pacific: Manila, Philippines, 6—13 September Eastern Mediterranean (dates and place to be announced later).

* * *

*Union Department of Health Bulletin.* Report for the 7 days ended Thursday 22 July 1954:—

*Plague:* Nil.

*Smallpox. (Transvaal):* One Native case at Elandsfontein in the Belfast district.

*Typhus Fever:* Nil.

*Epidemic Diseases in Other Countries:—*

*Plague:* Nil.

*Cholera in* Chittagong, Dacca (Pakistan); Calcutta (India).

*Smallpox in* Mogadiscio (Somalia); Bombay, Cochin, Delhi, Kanpur, Kozhikode (India); Phnom-Penh, (Cambodia); Haiphong, Hanoi (Viet-Nam).

*Typhus Fever:* Nil.

* * *

*Joint British and Canadian Medical Congress.* A Joint Medical Congress of the Canadian Medical Association and the British Medical Association will be held in Toronto, Ontario, during the week of 20 June 1955. Dr T. C. Routley was designated as President-Elect of the Canadian Medical Association at its Congress in Vancouver, British Columbia, 14—18 June 1954, and he recently attended the Congress of the British Medical Association in Glasgow, Scotland, 1—9 July 1954, where he was designated as President-Elect of the B.M.A. Thus Dr. Routley will be President of both the British and Canadian Medical Associations, as Dr. A. W. S. Sichel was President of the Medical Association of South Africa and the British Medical Association in 1951.

Dr. Routley was General Secretary of the Canadian Medical Association from 1923 to 1954, when he resigned the position on designation as President-Elect. He was Chairman of the Organizing Committee of the World Medical Association 1946—47 and Chairman of Council 1948—51, since when he has continued to sit with the W.M.A. Council as Consultant-General. He has taken an active part in the growth and development of the W.M.A.

* * *

*Missing Numbers of the Journal.* In connexion with the building-up of a Library of Tropical Medicine in Salisbury, Southern Rhodesia, the following numbers of the South African Medical Journal are missing from the series 1927 to 1953 inclusive:

1927 Nos. 1, 3 and 15 (8 January, 12 February and 13 August).
1929 Nos. 7, 8 and 13 (13 and 27 April and 13 July).
1936 Nos. 14 and 15 (25 July and 8 August).
1937 Nos. 10, 21 and 22 (22 May, 13 and 27 November).
1938 No. 19 (8 October).
1939 Nos. 1, 5, 12 and 13 (14 January, 11 March, 24 June and 8 July)
1940 Nos. 2 and 4 (27 January and 24 February).
1941 No. 2 (25 January).
1943 Nos. 3 and 12 (13 February and 26 June).
1944 No. 21 (11 November).
1945 No. 15 (11 August).
1946 No. 1 (12 January).
1947 Nos. 1, 4, 11, 15 and 24 (11 January, 22 February, 14 June, 9 August and 27 December).
1948 Nos. 6, 13, 22 and 23 (27 March, 10 July, 27 November and 11 December).
1949 Nos. 1, 2, 4, 5, 14, 15 and 27 (1, 8, 22 and 29 January, 2 and 9 April and 2 July).
1951 No. 1 (6 January).
1952 Nos. 28 and 35 (12 July and 30 August).

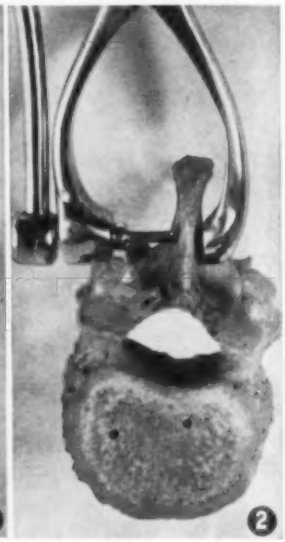
If any person has any of the above missing numbers it will be much appreciated if he will communicate with Dr. J. Ritchken, P.O. Box 2073, Salisbury, Southern Rhodesia.

## NEW PREPARATIONS AND APPLIANCES : NUWE PREPARATE EN TOESTELLE

T. B. MCMURRAY, M.CH. ORTH., F.R.C.S.(ED).

In bone-plating, grafting or wiring the spine difficulty is often experienced in perforating the spinous process of the vertebra. This is due to

(1) the depth of the wound, and
(2) the fact that the spinous process has to be perforated laterally.



This small tool has been designed to overcome these difficulties, which it does with comparative ease. It consists of a large pair of lion-jaw forceps which have been adapted to hold a drill point at the tip of one of the jaws. The drill point is attached to a handle which can be moved back and forth causing the drill to rotate and perforate the spinous process.

Fig. 1 shows the shape of the instrument.

Fig. 2 shows the instrument in position gripping the spinous process of a vertebra; the point of the drill is puncturing the spinous process.

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*Oxygenaire portable incubator for transport of premature babies from place of birth to hospital:* Oxygenaire (London) Limited are now producing a portable incubator, fitted with General Electric Company heating elements, that can be carried in ambulances when premature babies have to be removed to hospital.

It is seldom that premature infants born at home can be provided with those conditions of temperature, humidity and oxygen supply which they need and for which apparatus is provided in certain hospitals. Transport with improvised arrangements of hot-water bottles, etc., expose the premature baby to risk, especially when there are great distances to be travelled, as is often the case.

The unit is to be held ready at ambulance stations and hospitals, where it can be kept at optimum conditions by plugging into the main electricity supply, as can the sterilized wraps that are part of the equipment. There is a 500-watt mains element 80 inches in length. Inside the ambulance the unit is plugged into the ambulance batteries, 2 units each loaded at 30 watts operating on the 12-volt battery circuit. The unit can be carried by 2 persons to and from the ambulance.

On its arrival at the baby's home the baby is wrapped in the pre-heated clothes and placed in the incubator, which within minutes is plugged in within the ambulance. The interior of the unit is lighted so that the doctor or midwife can keep the baby under observation during the journey through a transparent panel.

The same firm produce incubator units for the treatment of premature babies in hospital.

"*Rauwidrine*": (Riker Laboratories) is a preparation for mood-elevation therapy and appetite suppression. It is a slow-release type of tablet containing 1 mg. of 'Rauwiloid' (the alseroxylon fraction of Rauwolfia serpentina) and 5 mg. of amphetamine sulphate. Both constituents act centrally, the amphetamine as a potent sympathomimetic agent, while the site of action of the Rauwiloid is probably the hypothalamus.

Mood elevation, due to the amphetamine, is modified by the tranquillizing effect of the Rauwiloid. Appetite suppression can be obtained by correct dosage-timing. Amphetamine side-effects (cardiac pounding, tremor, irritability and insomnia) are ameliorated by the rauwidrine. The vaso-constrictor action of amphetamine is largely controlled by the central vaso-dilator action of Rauwolfia, although severe hypertension remains a relative contra-indication. There is no significant hypotensive influence at the normotensive level.

Tolerance is generally excellent. However, in over-dosage the amphetamine sulphate sideactions tend to re-exert themselves, providing an autcmatiic warning against continued over-dosage.

Rauwidrine is available in containers of 25 and 250 tablets. All main wholesalers hold stocks.

*Adrenosem-Massengill* Westdene Products (Pty.) Limited, announce: *Adrenosem* is a synthetic haemostat known chemically as Adrenochrome mono-semicarbazone sodium salicylate complex. Adrenosem is specific for conditions characterized by increased capillary fragility and permeability. Of no known toxicity, Adrenosem does not exert any sympathomimetic effects and does not in any way interfere with the blood clotting mechanism. Thus, no fear of embolism.

Frequently acting shortly after administration, Adrenosem checks haemorrhage from a broad capillary bed, as in bleeding associated with haemorrhagic diseases and postoperative seepage. Pre-operatively, it is capable of minimizing bleeding during surgery and averting possible post-operative haemorrhage. Since no toxic effects have been observed even after continuous and prolonged administration, it can be employed to control active bleeding in doses of one ampoule every 2 hours for as many as 48 doses. By tablet medication in doses of 2.5 mg. every 3 or 4 hours maintenance can then be instituted for as long as necessary after the haemorrhage is controlled.

Adrenosem is indicated in post-tonsillectomy haemorrhage, post-operative seepage, pulmonary bleeding, epistaxis, retinal haemorrhage, familial telangiectasia, idiopathic purpura and renal haemorrhage, or any condition involving bleeding caused by impairment of capillary function. It is supplied in ampoules, 5 mg. per c.c., in boxes of 5 ampoules for intramuscular use, and tablets 2.5 mg. each in bottles of 50 tablets. Descriptive literature supplied by: Westdene Products (Pty.), Ltd., P.O. Box 7710, Johannesburg.

*M. & J. Pharmaceuticals (Edms.) Bpk.*, het hul eerste Afrikaanse publikasie—'n Afrikaanse katalogus van 44 bladsye wat handel oor hul reeks artsenykundige produkte—uitgegee. Dit kan van die firma (Posbus 784, Port Elizabeth), of hul verteenwoordigers, verkry word.

## COMBATING RIVER BLINDNESS (ONCHOCERCIASIS)

River blindness is prevalent in Kenya, where it is confined to the hilly region of Nyanza province, which consists of thickly populated African tribal lands fringing the eastern shore of Lake Nyanza. In the valleys where it is most prevalent the blindness rate goes up to 1 in every 6 tribesmen.

The disease which also occurs in Mexico and Central America, is caused by a filarial worm *Onchocerca Caecutiens*, which is transmitted by the bites of flies of the genus Simulium in Africa (and Eusimulium in America). The worm causes subcutaneous filariasis in man, the microfilarial form passing in the lymph to the eyes, where it produces punctate keratitis and partial or complete blindness, generally in middle age.

The natural history of the Vector fly in Kenya has been investigated by different workers, and James McMahon[1] discovered in 1950 that a freshwater river crab acts as host to the larva and pupa of *Simulium Neavei*. This crab is a hitherto unexamined species. McMahon was able to collect it by hundreds from the rivers where the flies breed, and nearly every one he found to be carrying both pupae and larvae of the fly. By dosing the infested rivers with dichloro-diphenyl-trichlorethane (DDT) the fly population of the surrounding area can be exterminated.

The DDT is poured into the stream near its source every 10 days over a period of 3 months, in quantities depending on the rate of flow, and it has been found that this programme is sufficient to exterminate the fly population of the surrounding area.

Since 1950 the fly has been exterminated in 4 infested areas in the Kericho and Kisii districts. It remains to deal with the remaining infested areas in the Kakamega and Kaimosi highlands and the rivers flowing from Mount Elgon near the Uganda border.

McMahon estimates that within 2 years the fly will have vanished from Nyanza province. It is anticipated that these measures will save the new generation of Africans from a lifetime of tormenting

filariasis of the skin with the prospect of a blind old-age, and will rid several large African tribes of the constant fear of blindness.

1. Matheson, A. (1954): Press release of U.K. Information Office, No. 9383.

## BOOK REVIEWS : BOEKRESENSIES

SECOND WORLD WAR: SURGERY

*Surgery: Medical History of the Second World War.* Edited by Sir Zachary Cope. (Pp. 772. 80s.) London: H.M. Stationery Office. 1954.

*Contents:* General Introduction. 1. Treatment of Wounds. 2. The Transfusion of Blood and Other Fluids. 3. Shock and Resuscitation. 4. Abdominal and Thoraco-Abdominal Injuries. 5. Anaesthesia. 6. Orthopaedic Surgery. 7. Burns. 8. Plastic Surgery. 9. Maxillo-Facial Injuries. 10. Neurosurgery. 11. Peripheral Nerve Injuries. 12. Injuries of Blood Vessels. 13. Thoracic Surgery. 14. Radiology. 15. Ophthalmology. 16. Oto-Rhino-Laryngology. 17. Progress in Genite-Urinary Work During the War. 18. Blast. 19. Crush Syndrome. 20. Immersion Foot. 21. Amputations and Artificial Limbs. 22. Physiotherapy and Rehabilitation. 23. Non-Pulmonary Tuberculosis. 24. Traumatic Effects of the Atomic Bomb. 25. Prisoner-of-War Camp Surgery. Index.

This work covers a cross-section of surgery in all its specialistic aspects throughout the war and thus becomes a comprehensive

review which will be found of considerable interest to all, particularly surgeons.

The introduction to some of the sections describing the position of knowledge at the end of the first World War is of particular value, enabling the reader's mind to pass easily across the bridge of years of peace-time surgery into the maelstrom of experiences and observations of the next 6 years.

The general principles of treatment of wounds come first to mind in traumatic surgery; these are reviewed from the vast experience of different methods used, with their various pros and cons, yet finally emphasizing the golden rule of the surgical future, that our valuable aides—the antibiotics etc.—must always remain ancillary to sound basic principles of surgical technique.

Transfusion and Resuscitation are discussed with interesting statistics and present a readily digestible quintessence of knowledge applicable to present-day practice; by the same token, the chapters on Spinal Injuries and their sequelae bring forward a wealth of knowledge and thought applicable to the serious problems of today. The work on Peripheral Nerve Injuries is interesting and a welcome addition to our meagre knowledge of these conditions and their end-results; although one would have liked an even larger section on this important subject. The section on genito-urinary surgery is disappointing in its brevity.

The incidence and serious nature of wounds of the trunk are covered in the sections on the Chest and Thoraco-Abdominal Injuries, where the methods of selection of treatment represent a valuable contribution to present-day surgery of the chest and abdomen, even in non-traumatic conditions; the separate reports of so many individual surgeons and their various personal series do not make for a ready over-all assessment of correct statistics, but the correlation of results in the appendices ameliorates this.

The surgery of the blood vessels is seen as an advance made through war experience while the records on Immersion Foot and on Altitude Exposure Hands set out observations which must represent a unique addition to present-day knowledge and a basis for future research. Burns afforded opportunity for an excellent description of their treatment which will be of interest to those handling the increasing incidence of industrial burns, although this would have been enhanced had appropriate Replacement Therapy been emphasized or the section linked with that on Blood Transfusion and Resuscitation.

It is not possible to traverse all aspects of this comprehensive book, but it is interesting to see the section on Amputations and Limb Fitting written by a recognized authority from the two World Wars where devotion to this subject between the wars, for both service and civil patients, epitomizes a fundamental aim of the work here reviewed.

W.E.U.

## UROLOGY

*Year Book of Urology*. (1953-1954 Year Book Series). Edited by William Wallace Scott, M.D., Ph.D. (Pp. 375 with 84 figures. $6.00). Chicago: Year Book Publishers, Inc. 1954.

*Contents:* 1. Medical Education, with Particular Reference to the Training of a Surgical Specialist. 2. General Considerations: (*a*) Infections, including Gonorrhea; (*b*) Calculi; (*c*) Anesthesia; (*d*) Urography, Instruments and Appliances; (*e*) Miscellaneous. 3. The Kidney: (*a*) Anomalies; (*b*) Tumors; (*c*) Tuberculosis; (*d*) Trauma; (*e*) Nephritis and Nephrosis; (*f*) Hypertension; (*g*) Renal Physiology; (*h*) Renal Insufficiency; (*i*) Surgical Technic; (*j*) Miscellaneous. 4. The Adrenals. 5. The Ureter: (*a*) Anomalies; (*b*) Surgical Technic. 6. The Bladder: (*a*) Tumors; (*b*) Micturition; (*c*) Neurogenic Bladder; (*d*) Urinary Extravasation; (*e*) Surgical Technic; (*f*) Miscellaneous. 7. The Prostate: (*a*) Transurethral Resection; (*b*) Suprapubic, Retorpubic and Perineal Prostatectomy; (*c*) Calculi; (d) Carcinoma; 8. The Genetalia: (a) Penis (b) Urethra; (c) Hypospadias; (*d*) Tumors of the Testis; (*e*) Scrotal Swellings; (*f*) Epididymides; (*g*) Infertility; (*h*) Miscellaneous.

There are specialists who affect to despise year-books. 'Drink deeply of the Pierian Spring' they cry and overwhelm one with erudition. This affectation is unjustifiable. Obviously all teaching and practising doctors must study original articles and burn the midnight oil in pursuit of detailed knowledge. This does not detract from the interest and stimulation offered by a book such as this.

Again edited by W. W. Scott, this year-book provides a comprehensive survey of urological literature, particularly that of the English-speaking world. The Editor, describing himself as a physiologist turned urologist, has written an interesting foreword on the education of young urologists. This foreword includes a lively account of a month spent in Brazil.

Pithy editorial comments follow many of the reviews and abstracts. The articles are long enough to cover the ground adequately, and are well written and well illustrated.

The reviewer once again attempted to solve the Quiz issued by the publishers and once again retired baffled and annoyed by the unfair wording of the questions.

This useful and attractive little volume is a work of art. It is also obviously a labour of love. It will be of great value to all students of urology, and should be carried round or kept handy by more-experienced urologists who will dip into it with pleasure from time to time.

J.A.C.

## HUMAN NEUROANATOMY

*Human Neuroanatomy*. By Oliver S. Strong and Adolph Elwyn. (Pp. 481 + xii with 357 figures. Third edition. 57s. 6d.) London: Baillière, Tindall and Cox Ltd. 1953.

*Contents:* 1. General Organization and Significance of the Nervous System. 2. Development of the Nervous System. 3. The Neuron. 4. Neuroglia. The Interstitial Tissue of the Nervous System. 5. Histogenesis of the Neural Elements and Their Segmental Distribution. 6. The Peripheral Nerves and their Ganglia. 7. Peripheral Terminations of Afferent and Efferent Nerve Fibres. 8. The Meninges of the Central Nervous System. 9. The Spinal Cord. 10. Segmental and Peripheral Innervation. 11. The Fiber Tracts of the Spinal Cord. 12. The Peripheral Portions of the Autonomic System. 13. General Considerations of the Brain. The Anatomy of the Medulla and Pons. 14. The Internal Structure of the Medulla. 15. The Internal Structure of the Pons. 16. The Mesencephalon. 17. The Cerebellum. 18. The Diencephalon and Corpus Striatum. 19. The Cerebral Hemispheres. 20. The Cerebral Cortex. 21. The Blood Supply of the Brain. Bibliography. Index.

This volume is the third edition of a well-known text book, useful both to the post-graduate student, and as a work of reference. The presentation is made from a functional and clinical point of view, so that the relationship between neuro-anatomy and neuro-physiology is kept constantly in mind.

An example of this is the section on functional considerations in dealing with the anatomic nervous system, with a discussion on adrenergic and cholinergic types of fibres in sympathetic and parasympathetic systems. The notes on some important peripheral anatomic pathways and the effects of lesions will prove useful to the student in the understanding of clinical syndromes. A detailed account of the innervation of the bladder and of the spinal mechanism of micturition would, however, have been welcome.

References to modern clinical work include summaries of post-leucotomy assessments, cortical functioning, associative memory and mnemonic reactions are dealt with briefly, and gnostic disturbances discussed.

The illustrations are extremely good, and so arranged that it is easy to correlate diagrammatic representations of fibre tracts with the photographs of brain sections at different levels. The blood supply of the brain is graphically, if briefly, described, though greater stress might have been laid on the frequent anatomic variations of many cerebral arteries as for instance the posterior inferior cerebellar artery.

The publication of this edition indicates beyond doubt that this work has become firmly established as one of the leading text books on the subject.

F.H.R.

## ADVANCES IN MODERN MEDICINE

*Practical Procedures in Clinical Medicine: Biochemical and Radiological Investigations*. By R. I. S. Bayliss, M.A., M.D. (Camb.), M.R.C.P. Second Edition. (Pp. 484+xvi, with 61 illustrations. 32s.) London: J. &. A. Churchill Limited. 1954.

*Contents:* 1. Taking Blood and Giving Injections. 2. The Alimentary Tract. 3. The Cardiovascular System. 4. Disorders of the Blood. 5. Blood Transfusion. 6. Use of Parenteral Fluids. 7. Examination of Urine. 8. Tests of Renal Function. 9. Disorders of the Liver. 10. Disorders of the Respiratory System. 11. The Central Nervous System. 12. Endocrine and Metabolic Disorders. 13. Rheumatic and Allied Disorders. 14. Radiology in Clinical Medicine. 15. Miscellanea. Index.

Modern Medicine moves apace. The phenomenal recent advances in both diagnosis and treatment are based upon a fuller and more basic understanding of human physiology and biochemistry. Diagnostic and therapeutic procedures, which at one time were the prerogative of the few clinical researchers, are now practical procedures for all engaged in the practice of modern medicine.

Biochemical tests have become part of the routine examination of the patient. It is thus essential that the physiological basis,

application and interpretation of these tests are understood, because without this knowledge the clinician cannot appreciate their value and limitations. The intelligent and economic application of the newer physiological and biochemical methods in conjunction with a carefully taken history and complete physical examination, can be of inestimable benefit to the patient by increasing the accuracy of diagnosis.

Dr. Bayliss in his second edition of 'Practical Procedures in Clinical Medicine', must be congratulated on fulfilling his task admirably in presenting to senior students, house physicians, registrars and general practitioners the practical procedures commonly used in the investigations and treatment of medical patients.

Any criticisms the reviewer may offer are minor. For instance the technique of Reticulocyte Counts may have been described. Furthermore it is still wrongly stated that bronchography is contraindicated in tuberculosis, and that a barium meal should not be performed within a fortnight of a haematemesis or malaena.

Excellent chapters on Rheumatic Disorders, Radiology, Blood Transfusion and the use of Parenteral Fluids have been written by Dr. Fearnley, Dr. Pierce and Dr. Tovey respectively, and a very good section on Dietetics also appears. A very useful reference table, in which are given normal biochemical values and the volume and type of material required for common biochemical investigations, appears on the inside back cover of the book. This small volume should be the *vade mecum* of every senior medical student and house physician.

A.L.

### CLINICAL BIOCHEMISTRY

*Practical Clinical Biochemistry.* By Harold Varley, M.Sc., F.R.I.C. (Pp. 551 + vii. 42s.) London: William Heinemann Medical Books Limited. 1954.

*Contents:* 1. Introductory; Collection of Specimens and some General Techniques. 2. Blood Sugar and its Determination. 3. Glucose Tolerance Tests. 4. Tests for Glucose and other Reducing Substances in Urine. 5. Diabetes Mellitus; Ketosis; Diabetic Coma. 6. Proteins in Urine; Albuminuria. 7. Urinary Deposits. 8. Blood and Urine Urea. 9. Chemical Tests in Kidney Disease. 10. Non-Protein Nitrogen. 11. The Plasma Proteins. 12. Lipids. 13. Tests of Gastric Function; Occult Blood. 14. Tests in Liver and Biliary Tract Disease. 15. Tests of Pancreatic Function; Steatorrhoea. 16. Calcium, Phosphorus and Phosphatases. 17. Iodine, Iron and Copper. Sulphur, Magnesium. 18. Chloride, Sodium and Potassium. 19. Acid-Base Balance. 20. Basal Metabolism; Oxygen Capacity. 21. Haemoglobin and Related Compounds. 22. Vitamins. 23. Hormones. 24. Chemical Examination of Cerebrospinal Fluid. 25. Milk. 26. Stones. 27. Urine and Faecal Pigments. 28. Drugs and Poisons. Appendices. Bibliography. Index.

This is another book among the many which cover the same field. Its aim is essentially practical, but short interpretative summaries are given at the end of each chapter. These summaries are intended to obviate frequent references to larger texts and review articles. They unfortunately do not fulfil their intended function.

The chapter on the collection and preservation of specimens and general techniques including colorimetry is well arranged and readable. It is a pity that the Ringbom plot has not been discussed in the pages on colorimetry.

While the general routine of a hospital biochemical laboratory is well coverd, there are some notable omissions. For example neither mucoproteins, hydroxy-corticosteroids nor the fluorometric determination of catechol derivatives is mentioned. These estimations are no longer research procedures. The determination of oestrogens in pregnancy urine by means of the Kober reaction is described, but one feels that a description of the fluorometric determination of 'normal' amounts of oestrogen would have been more useful.

Unspecific tests such as the Levinson test and the tryptophane test for tuberculous meningitis should find no room in a book such as this. An unnecessary amount of space has been given to the determination of pregnandiol (8 pages) and sulfonamides (4 pages) and the quantitative determination of ketones in blood and urine. The value of these estimations is doubtful.

Over all this book can be recommended as a routine laboratory manual.

A.A.K.

## CORRESPONDENCE : BRIEWERUBRIEK

### A CASE OF RUPTURED UTERUS

*To the Editor* An unusual and interesting case came my way a few months ago and I think it worth reporting.

A Native female aged 42 years, an 8-para, was admitted to a mission hospital near by, in labour about 9 hours after the membranes had ruptured with an arm presenting.

Her general condition was good, blood pressure normal and pulse 90 per minute. Contractions were very strong and no foetal heart could be heard.

She was anaesthetized with gas, oxygen and ether. Without undue difficulty the arm was pushed back into the uterus, internal version performed, and delivery as a breech carried out. The patient's condition was still excellent. I now attempted manual removal of the placenta and to my surprise delivered about 2 feet of small bowel which I rapidly replaced. After removal of the placenta the uterus contracted well with ergometrine and there was no bleeding.

Just before leaving the theatre the patient stopped breathing, but recovered after artificial respiration.

Convalescence was stormy, with bouts of generalized abdominal pain and swinging temperature but no signs of peritonitis; antibiotics were given. Faeces were passed normally 10 days later. She was discharged 2 months after admission, having survived an unrepaired ruptured uterus and the added danger that the prolapsed bowel might have become caught in the contracted uterus, causing an obstruction.

Whether this patient had a ruptured uterus on admission or whether it was ruptured during the version I cannot say.

J. L. Beckh.

P.O. Creighton,
Natal.
20 July, 1954.

### 'N NUWE BINNEAARSE MIDDEL VIR GALBLAAS-ONDERSOEK

*Aan die Redakteur:* Van spesiale belang vir die galblaas-ondersoek, veral op plattelandse pasiënte, is die vrystelling van die nuwe binneaarse middel, *biligrafin*. Dit word vervaardig deur Schering, A. G., Berlyn, Duitsland. Die middel, natriumsout van N,N. adipien-di (3-amino-2 : 4 : 6-trijodo bensoësuur) bevat 64% jodium en is beskikbaar in buisies van 20 ml. van 'n 20% oplossing, gereed vir gebruik. 'n 1 ml. buisie is by elkeen verpak vir die voorlopige gevoeligheidstoets. Die inspuiting word stadig binneaars gegee.

Toetse op diere toon dat die giftigheid minder is dan die gewone middels vir 'n cholecystogram wat in omgang is.

In Duitsland is biligrafin reeds vir die afgelope 18 maande in gebruik en W. Frommhold van die Universiteit van Berlyn het goeie resultate met sy eerste 200 gevalle behaal.

Tot dusver het ek in 18 gevalle van biligrafin gebruik gemaak—17 van die pasiënte het geen reaksie getoon nie, maar 1 het 'n geringe naarheid ondervind wat vir 'n paar minute geduur het. Hierdie pasiënt was egter besonder siek voordat die inspuiting gegee is.

In 'n normale geval wys die galblaas gewoonlik 'n dowwe skaduwee 'n halfuur na die inspuiting; een uur later wys dit goed en na twee uur bereik die konsentrasie dieselfde digtheid as dié waar pille, bv. telepaque, die vorige aand geneem is. Die galbuise wys dikwels mooi op die plate veral as 'n dubbel dosis van kleurstof ingespuit word.

90% van die biligrafin word deur die lewer na die spysverteringskanaal, wat dit nie weer absorbeer nie, afgeskei en 10% deur die niere. Geeneen van die pasiënte het tot dusver van enige spysverteringskanaal- of urinêrebaan-simptome gekla nie.

Bogemelde middel is van spesiale belang:

1. Waar 'n cholecystogram dringend nodig is en die plattelandse pasiënt, onvoorberei vir die ondersoek, genoodsaak is om dieselfde aand weer terug te gaan.

2. Waar plattelandse pasiënte wel voorberei is d.w.s. die gewone galblaaspille (telepaque, teridax of pheniodol) die vorige aand geneem het maar die galblaas nie op die eerste paar plate wys nie, kan 'n aanvullende ondersoek met biligrafin onmiddellik binneaars toegedien word.

3. In gevalle waar daar moontlike patologie van die maag of ingewande is wat absorbering van die gewone middel per mond belemmer.

4. Waar die digte skaduwee van die gewone middels dikwels klein steentjies versper terwyl dit met biligrafin wel op die eerste plate kan wys wanneer die skaduwee nog flou is.

Krimping na die vetterige maal is skynbaar in ooreenstemming met die gewone resultate waar pille gebruik is.

Tot dusver was die voorrade beperk en die getal ondersoeke min maar die uitslae is goed en ek meen dat die gebruik hiervan vinnig sal toeneem selfs in die alledaagse roetine-ondersoeke.

Van die 18 gevalle wat ek gedoen het, was die resultate as volg:

5 gevalle was normaal met die inspuiting alleen.

3 gevalle wat nie ná die pille gewys het nie was volkome normaal na 'n aanvullende binneaarse inspuiting.

5 gevalle wat nie ná die pille gewys het nie het egter genoeg kleurstofkonsentrasie getoon om deurskynende stene te onderskei.

5 gevalle het geen konsentrasie van die kleurstof òf met pille òf met inspuiting getoon nie.

C. J. B. Muller

Dumbarton-gebou 202
Kerkstraat
Kaapstad
23 Junie 1954

## FATAL TRANSFUSION ACCIDENT: AIR EMBOLISM

*To the Editor:* The administration of blood or plasma under pressure by the intravenous or intra-arterial routes may, on occasions, be a life-saving procedure. It is unfortunate, therefore, that Dr. Burrows [1] should have quoted with unqualified approval the following view expressed by the Medico-Legal Committee of the American Medical Association:[2] 'Since the method is not foolproof, transfusion under positive pressure is to be condemned'. Understandable as such an attitude may be on the part of the medico-legal pathologist, it cannot be too strongly deplored when directed at the clinician faced with the necessity for applying urgent resuscitative measures to a patient in imminent danger of death from circulatory collapse. There is no single technique in the entire catalogue of surgical procedures which is not potentially dangerous in the hands of fools and incompetents or when faulty equipment is used.

In the particular case reported, it seems to me that the improvised and obsolete transfusion apparatus employed was primarily at fault. According to Dr. Burrows's sketch, the blood bottle was fitted with a perforated rubber bung through which had been inserted two glass tubes. In the inverted position these acted respectively as air inlet and blood outlet. Blood being opaque, it would be impossible for the transfusionist to determine the precise level of the top of the outlet tube. Judging from the sketch, the outlet tube in this instance projected at least 1½" above the rubber bung. Other serious defects demonstrated in the sketch are the use of a pump without a valve for the instantaneous release of pressure and the apparent absence of a blood filter in the line of the outlet tube.

I agree that with apparatus such as this the application of positive pressure is extremely dangerous. The unfortunate transfusionist, however intelligent, would require to be endowed with extraordinary faculties of anticipation and dexterity to obviate the transmission of emboli—either of air or of clots—from the bottle. Superior equipment, adaptable for giving blood under pressure with safety—provided that reasonable care is exercised—is available and is being extensively used in this country.

M. Shapiro

S.A. Blood Transfusion Service
P.O. Box 9326
Johannesburg
26 July 1954

1. Burrows, E. H. (1954): S. Afr. Med. J., **28**, 436 (22 May).
2. Report of the Medico-Legal Problems Committee on Blood Transfusion (1953): J. Amer. Med. Assoc., **151**, 1435.

## FATAL AIR EMBOLISM

*To the Editor:* Whereas I agree with the general tenor of his letter, I would suggest that Dr. Jones in his letter to the Editor [1] amend his second sentence to 'it should *seldom* be necessary to subject any patient to the risk of air embolism during transfusion'.

There are certain situations where pressure-transfusion is helpful and may be essential. Among these are intra-arterial transfusion and the so-called venospasm, in which latter condition methods to relax the vein wall (if this be the cause) are not always successful.

A technical difficulty may arise in that it is not always possible to insert a large-bore needle into the collapsed vein of a collapsed patient.

If pressure-transfusion be considered necessary, I would submit that this demands the constant personal attention of one familiar with the method; only thus can the hazards of air embolism be minimized—one hopes, averted.

I should be grateful to Dr. Jones if he could refer me to any literature on the subject of explosive bursting of blood-transfusion bottles; it is an accident which, fortunately, I have escaped so far, though I have seen a cork blow out.

G. G. Henderson, M.B., Ch.B., D.A.

84 Park Drive
Port Elizabeth
24 July 1954

1. Jones, C. S. (1954): S. Afr. Med. J., **28**, 620 (17 July).

## RAIDERS' REST CONVALESCENT HOME AID A HOME AND SERVICE

*To the Editor:* I am requested by the Cape Regional Council of the South African Red Cross Society to enquire whether you would be kind enough to give some publicity in your journal to the Raiders' Rest Convalescent Home in Avenue de l'Hermite, Sea Point, which is, as you know, maintained and run by the Cape Region of the South African Red Cross Society.

This Convalescent Home, with accommodation for 12 males and 6 females, was established just after the war primarily for ex-service men and women, but also for other members of the public recommended by their doctors.

A small charge is made to Service personnel and a fee is also paid by members of the Merchant Navy; otherwise no charge is made and the convalescents are regarded as the guests of Red Cross, which is, however, grateful for any donation they may make.

It is of interest to know how the Home got its name. Raiders' Rest was bought with funds collected by Mrs. Grace Woollacott and her band of 'Raiders' and was run during the war by the S.A.W.A.S. as a rest-home for women on active service. At the end of the war the originators of the scheme handed the building over to Red Cross to use as it saw fit. It proceeded to establish a convalescent home, and retained the picturesque name.

The staff consists of a matron and sister who look after the patients' comfort, but are too busy to do any actual nursing. The convalescents admitted, therefore, should not require nursing.

It is hoped that the doctors who read this note will not hesitate to ring up the Matron (telephone 4-3488) when they have patients who they feel would benefit by a short stay in Raiders' Rest. The normal maximum period allowed is 3 weeks.

It may be of interest, too, that Red Cross has recently instituted a Home Aid Service (telephone 2-1782) whose purpose it is to supply assistance in homes whose housewife is temporarily incapacitated. The Home Aid is not a trained nurse but a woman experienced in running a home. She can undertake this duty for a period of up to 3 weeks. She is paid by the Society but a charge is made for her services, which is reduced, or remitted, according to circumstances.

The Home Aid Service and Raiders' Rest are often complementary. For example, a mother might benefit by a stay in the convalescent home and would be happy to know that her home is being looked after by an experienced housewife, who is probably a mother herself.

A. Forsyth Thompson
*Regional Secretary*

The South African Red Cross Society
Red Cross House
14/16 Riebeeck Street
Cape Town
29 July 1954

# The Medical Association of South Africa
# Die Mediese Vereniging van Suid-Afrika

## AGENCY DEPARTMENT : AGENTSKAP-AFDELING

### JOHANNESBURG

Medical House, 5 Esselen Street. Telephone 44-9134-5, 44-0817
Mediese Huis, Esselenstraat 5. Telefone 44-9134-5, 44-0817

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**(600)** Aangename Natalse dorp, met hospitaal. Assistent met definitiewe oog op vennootskap, verlang.
**(609)** Groot Transvaalse hospitaaldorp. Plaasvervanger vir September. Salaris £3.3.0d. per dag en alles vry. Kan woon in hoof se huis.
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**(612)** Town near Johannesburg. Assistant is required to start as soon as possible. DEFINITE VIEW TO PARTNERSHIP. Excellent salary offered. Preferably someone interested in surgery. Must be a young man, single or married.
**(613)** Johannesburg, suburban practice. Locum as from 8 till 20 August. Car provided. Excellent salary.
**(615)** O.V.S. Plaasvervanger vir Desember *of* Januarie. Privaat praktyd met spreekkamers in huis. Min nagwerk. £3.0.0d. per dag, alles vry en 6d. per myl distriksritte. Moet eie kar gebruik. Sal dame ook pas.
**(616)** Pretoria. Plaasvervanger vir November en Desember. Salaris £100 per maand, alles vry en £10 p.m. kartoelae. Iemand met sy eie praktyk in Pretoria, hoef nie aansoek te doen nie.
**(621)** Large hospital town in O.F.S. Locum is required in partnership practice, for September and October. Very well-organised practice. Must have his own car. Terms: £3.3.0d. per day and all found.
**(622)** Non-European practice near Johannesburg. Locum is required from 27 December till 27 January, and will suit a young man residing in Johannesburg. Practically no night work and no Sunday work. Terms: £3.3.0d per day and £1.1.0d. per day car allowance. Hours 9.30 a.m. till 4.30 p.m. daily, and locums with practices elsewhere need not apply.
**(623)** Gold Coast. Locum is required to start immediately, for three months. Salary plus allowances over £200 per month. Air passage paid, bothways. Very easy hours and no night work. Golf, tennis and swimming baths.
**(624)** Rand. Plaasvervanger vanaf 9 tot 31 Desember, n aangename praktyk, en sal 'n bejaarde persoon ook pas. Eie kar nodig. Salaris £3.3.0d. per dag en alles vry. Woning beskikbaar vir getroude persoon.
**(625)** Partnership practice near Johannesburg. Locum as from 10 October till 10 December. Own car necessary. Terms: £3.3.0d. per day and all found. Own car necessary.
**(626)** Reef hospital town. Very large and busy practice. ASSISTANT to start 1 September. Own car necessary. Excellent salary and car allowance will be paid.

### PARTNERSHIP FOR SALE.

**(Pr/S138)** REEF HOSPITAL TOWN. A FOURTH SHARE is offered in a well-established practice, with appointments and easy terms could be arranged. ALL surgery undertaken and the incoming man should have some surgical experience. EXCELLENT OPPORTUNITY FOR A YOUNG BILINGUAL MAN, JEWISH OR GENTILE.

* * *

### DURBAN

112 Medical Centre, Field Street. Telephone 2-4049

### PRACTICE FOR SALE

**(PD25)** Durban. House and practice available, suitable for a surgeon. Details on application.
**(PD26)** Transkei. Practice established 8 months ago. Average monthly turnover £126/£140. Two appointments held District Surgeon and M.O. to Native Recruiting Corporation. New outstation clinics could be opened. Trout and river fishing within 15 miles. Will consider any offer.
**(PD/27)** Drakensberg. Native Reserve area. Dispensing practice established February 1954 on part-time basis. Cash takings approximately £400. Buyer to take over drugs at cost, approximately £150 and equipment £60. Goodwill to be calculated as a percentage of the takings at the end of July.
**(PD28)** Durban. General practice also non-European surgery. Owing to ill-health owner wishes to sell as soon as possible. Before illness gross income £3,000 per annum. Premium £2,000. House for sale.

### LOCUMS REQUIRED

Zululand. For two months or possibly longer. £2 12s. 6d. per day, all found and car allowance.

### ASSISTANT REQUIRED

**(AM2)** Assistant required for trial period. If suitable partnership will be offered. General practice in select area approximately 20 miles from Durban.

### INSTRUMENTS FOR SALE

Two Electrocardiograph machines in first class order. Owner acquiring self-reading machine. Offers to be made.
Davidson Pneumothorax apparatus. Practically new. Any offer considered.
Super-sonic (Impulsaphon) Machine in perfect condition. £250 immediate sale.

* * *

### KAAPSTAD : CAPE TOWN

Posbus 643, Telefoon 2-6177 : P.O. Box 643, Telephone 2-6177
Waalstraat 35 35 Wale Street

### PRACTICES FOR SALE : PRAKTYKE TE KOOP

**(1399)** Transkei. Unopposed prescribing practice. Cash receipts 1950/51/52—£3,887, £4,814, £5,064. Two appointments. Practically no night work. Premium required £2,200. Large house for sale at £2,300. Jeep also offered for sale. Terms possible.
**(1436)** Goedgevestigde Karoo-praktyk. Ontvangste ongeveer £3,000 p.j. D.S. en M.O.H. aanstellings. Koopprys £1,500 wat voorrade insluit. Gerieflike woning met spreekkamers beskikbaar teen besonder billike huurgeld.
**(1276)** S.W.A. hospital town. Well-established prescribing practice. Cash income=£3,879 p.a. THIS IS AN EXCELLENT OPPORTUNITY to acquire a very good practice with full scope for surgery at an exceptionally low premium as the owner wishes to sell as soon as possible in order to specialize. Premium for goodwill, instruments and excellent surgery furniture £1,600. Terms possible.
**(1679)** KAAPSTAD. UITSTEKENDE VOORSTEDELIKE PRAKTYK. BESONDERHEDE OP AANVRAAG.

### ASSISTENTE: PLAASVERVANGERS VERLANG ASSISTANTS: LOCUMS REQUIRED

LOCUMS AND OR ASSISTANTS ARE URGENTLY REQUIRED FOR URBAN AND RURAL AREAS. DETAILS ON APPLICATION.

### CONSULTING ROOMS AVAILABLE

**(1694)** Fully furnished consulting room with waiting room and receptionist services in central position Cape Town, afternoons only. Low rental.

### INSTRUMENTS FOR SALE

**(1587)** *Zeiss Winkel Microscope* (91385) with 3 lenses. Oil immersion and 2 eyepieces £60. Haemacytometer £3.16.0.
These instruments are NEW but available at reduced prices.

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### TE KOOP

Goed gevestigde Praktyk te Pretoria. Geleë in die middel van die stad. Uiters moderne spreekkamers. Kontant imkomste vir afgelope finansiële jaar £3400. Premium £2500.
Doen aansoek A.V.V. Posbus 643 Kaapstad.

# Transvaalse Provinsiale Administrasie

## VAKATURES BY PUBLIEKE HOSPITALE

Aansoeke word ingewag van kandidate met geskikte kwalifikasies vir die onderstaande poste by Publieke Hospitale in die Transvaal. Aansoeke moet gerig word aan die Geneeskundige Superintendent of Verantwoordelike Geneesheer van die betrokke hospitaal en moet volle besonderhede bevat aangaande die ouderdom, professionele, akademiese en taalkwalifikasies, ondervinding en huwelikstaat van die applikant en moet voorts 'n aanduiding bevat van die vroegste datum waarop diens aanvaar kan word. Afskrifte van onlangse getuigskrifte moet aangeheg word by aansoeke.

Lewenskostetoelae tans betaalbaar aan voltydse werknemers:

| *Salaris* | *Lewenskostetoelae* | |
|---|---|---|
| | *Getroud* | *Ongetroud* |
| Oor £350 | £352 per jaar | £110 per jaar |

Van persone wat aangestel word, sal verwag word om bevredigende sertifikate in te dien, asook om hulle te onderwerp aan 'n geneeskundige ondersoek by die betrokke hospitaal.

Aansoekvorms is verkrygbaar van enige Transvaalse Publieke Hospitaal of die Provinsiale Sekretaris Afdeling Hospitaaldienste, Posbus 2060, Pretoria.

Benewens jaarlikse salaris en lewenskostetoelae ontvang voltydse werknemers spoorwegkonsessie en word verlof toegestaan ooreenkomstig die hospitaalverlofregulasies.

Die sluitingsdatum van aansoeke vir die poste is 24 Augustus 1954.

| *Pos* | *Hospital* | *Emolumente* | *Aanmerkings* |
|---|---|---|---|
| Verantwoordelike Geneesheer | Standerton | £1,000x50–1.200 | Geregistreerde Mediese Praktisyn. Vorige administratiewe ondervinding 'n aanbeveling Plus £180 per jaar huistoelae. Geneeskundige administratiewe verantwoordelikheid vir die hospitaal tesame met behandeling van sommige van die pasiënte. |
| Deeltydse Radioloog | Heidelberg | £205 per jaar 1 sessie per week | Opgeleide en geregistreerde Radioloog. Plus 2/3des van gelde deur privaat pasiënte vir radiologiese dienste betaal. Mag nie £1,435 per jaar oorskry nie. |
| | Paul Kruger Gedenk, Rustenburg | do. | do. |
| Deeltydse Algemene Praktisyn | Vanderbijl Park | £85 per jaar. ½ sessie per week | Geregistreerde Mediese. Praktisyn. Hoër Graad in medisyne 'n aanbeveling. |
| Ongevalle Beampte | Verre Oosrand, P.K. New State Areas | £620–780–820–860 | Geregistreerde Mediese Praktisyn. |
| | Vereeniging | do. | do. |
| Mediese Beampte | Verre Oosrand, Pk. New State Areas | do. | do. |
| Kliniese Assistent | Vereeniging | do. | Geregistreerde Mediese Praktisyn. Moet minstens twee jaar gekwalifiseerd wees. |
| Kliniese Assistent (Narkose) | Pretoria | £620–780–820–860 | Geregistreerde Mediese Praktisyn. Moet minstens twee jaar gekwalifiseerd wees. |
| | Vereeniging | do. | do. |
| Senior Inwonende Mediese Beampte | Boksburg-Benoni | £480 per jaar Plus losies en inwoning of 'n toelae van £120 per jaar ten opsigte van losies en inwoning | Geregistreerde Mediese Praktisyn. |
| | Sabie | do. | do. |
| Senior Inwonende Mediese Beampte | Standerton (1) | £480 per jaar Plus losies en inwoning of 'n toelae van £120 per jaar ten opsigte van losies en inwoning | do. |
| of | | | |
| Intern | Standerton (2) | £240 per jaar. Plus losies en inwoning of 'n toelae van £120 per jaar ten opsigte van losies en inwoning. | |
| Senior Inwonende Mediese Beampte | Vereeniging (1) | £480 per jaar. Plus losies en inwoning of 'n toelae van £120 per jaar ten opsigte van losies en inwoning. | Geregistreerde Mediese Praktisyn. |
| of | | | |
| Intern | Vereeniging (2) | £240 per jaar. Plus losies en inwoning of 'n toelae van £120 per jaar ten opsigte van losies en inwoning. | |
| Senior Inwonende Mediese Beampte | Verre Oosrand. Pk. New State Areas | £480 per jaar. Plus losies en inwoning of 'n toelae van £120 per jaar ten opsigte van losies en inwoning. | Geregistreerde Mediese Praktisyn. |
| of | | | |
| Intern | Verre Oosrand, Pk. New State Areas | £240 per jaar. Plus losies en inwoning of 'n toelae van £120 per jaar ten opsigte van losies en inwoning. | |

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## Provinsiale Administrasie van die Kaap die Goeie Hoop

### HOSPITAALRAADSDIENS: VAKATURE

### GROOTE SCHUUR-HOSPITAAL, OBSERVATORY, KAAP TEGNIKUS, GRAAD B (E.E.G.-TEGNIKUS)

### DEPARTEMENTE VAN NEURO-PSIGIATRIE EN NEURO-CHIRURGIE

*Electroencephalografiese Laboratorium*

Aansoeke word ingewag van gekwalifiseerde persone vir aanstelling tot die pos van Tegnikus, Graad B, (E.E.G.-Tegnikus), by die Groote Schuur-hospitaal, Observatory, Kaap.

Die besoldiging verbonde aan die pos bedra £500 per jaar in die eerste instansie met jaarlikse verhogings van £25 per jaar tot 'n maksimum van £650 per jaar. Benewens die salarisskaal hierbo vermeld is 'n lewenskostetoelae van £320 per jaar aan getroude persone en £100 per jaar aan enkel persone betaalbaar.

Die verlof en pensioenvoorregte verbonde aan die pos en ander diensvoorwaardes word ingevolge die betrokke Ordonnansies en Regulasies bepaal.

Kandidate moet opgeleide en ervare E.E.G.-Tegnici wees en moet in staat wees om diens so gou as moontlik te aanvaar.

Indien die suksesvolle kandidaat nie in die Hospitaalraadsdiens is nie, sal hy bevredigende geboorte- en Gesondheidsertifikate moet indien.

Aansoek moet gedoen word op die voorgeskrewe vorm Staf 23 wat verkrygbaar is by die Direkteur van Hospitaaldienste, Posbus 2060, Kaapstad, of by die Mediese Superintendent van enige Provinsiale Hospitaal of by die Sekretaris van enige Skoolraad in die Kaapprovinsie.

Die voltooide aansoekvorms moet aan die Direkteur van Hospitaaldienste, Posbus 2060, Kaapstad, gerig word en moet hom nie later as 31 Augustus 1954 bereik nie.

M127248

## Provinsiale Administrasie van die Kaap Die Goeie Hoop

### HOSPITAALDEPARTEMENT

### WESTELIKE PROVINSIE BLOEDOORTAPPINGSDIENSTE: VAKATURE

1. Aansoeke word ingewag van geregistreerde geneeshere (geregistreerde spesialiste) vir aanstelling tot die pos van Geneesheer, Graad F, met salaris teen £1,800 per jaar (vasgestel) by die Westelike Provinsie Bloedoortappingsdienste, Kaapstad.

2. Benewens die salaris soos aangedui is 'n lewenskostetoelae teen tariewe wat van tyd tot tyd deur die Administrateur vasgestel word betaalbaar. Die teenswoordige tarief is £352 per jaar vir getroude persone en £110 per jaar vir ongetroude persone.

3. Die verlof en pensioenvoorregte verbonde aan die pos en ander diensvoorwaardes word deur die betrokke ordonnansies en regulasies bepaal.

4. Van die kandidate sal vereis word om te organiseer en toesig te hou oor die tegniese en oortappingsafdelings van die Bloedoortappingsdienste in die Kaapprovinsie, insluitende die stigting en administrasie van 'n laboratorium verbonde aan die Bloedoortappingsdienste.

5. Alhoewel dit nie noodsaaklik vir kandidate is om geregistreerde pataloge te wees nie, moet hulle laboratorium-ondervinding besit en 'n besondere kennis van die patalogiese en laboratoriumaspekte van Bloedoortapping dra.

6. Die geslaagde kandidaat, indien nie reeds in die Hospitaalraadsdiens nie, moet bevredigende geboorte- en gesondheidsertifikate indien.

7. Aansoek moet gedoen word op die voorgeskrewe vorm (Staf 23) wat verkrygbaar is by die Direkteur van Hospitaaldienste, Posbus 2060, Kaapstad, of by die Mediese Superintendent van enige provinsiale hospitaal of Sekretaris van enige Skoolraad in die Kaapprovinsie.

8. Die ingevulde aansoekvorms moet aan die Direkteur van Hospitaaldienste, Posbus 2060, Kaapstad, gerig word en moet hom nie later as 30 September 1954 bereik nie.

M127246

## Provincial Administration of the Cape of Good Hope

### HOSPITAL BOARD SERVICE: VACANCY

### GROOTE SCHUUR HOSPITAL, OBSERVATORY, CAPE TECHNICIAN, GRADE B (E.E.G. TECHNICIAN)

### DEPARTMENTS OF NEURO-PSYCHIATRY AND NEURO-SURGERY

*Electroencephalography Laboratory*

Applications are invited from qualified persons for appointment to the post of Technician, Grade B, (E.E.G. Technician) at the Groote Schuur Hospital, Observatory, Cape.

The remuneration applicable to the post will be at the rate of £500 per annum in the first instance rising by annual increments of £25 per annum to a maximum of £650 per annum. Over and above these figures a cost of living allowance at the rate of £320 per annum to married persons and £100 per annum to single persons is payable.

The leave and pension privileges attached to the post and other conditions of service are governed by the relevant Ordinances and Regulations.

Candidates must be trained and experienced E.E.G. Technicians and must be able to commence duties as soon as possible.

The successful candidate, if not already in the Hospital Board Service will be required to submit satisfactory Birth and Health Certificates.

Application should be made on the prescribed form Staff 23, which is obtainable from the Director of Hospital Services, P.O. Box 2060, Cape Town, or from the Medical Superintendent of any Provincial Hospital or Secretary of any School Board in the Cape Province.

The completed application forms should be addressed to the Director of Hospital Services, P.O. Box 2060, Cape Town, and must reach him not later than 31st August 1954. M127248

## Provincial Administration of the Cape of Good Hope

### HOSPITALS DEPARTMENT

### WESTERN PROVINCIAL BLOOD TRANSFUSION SERVICES: VACANCY

1. Applications are invited from registered Medical Practitioners (Registered Specialists) for appointment to the post of Medical Practitioner, Grade F, with salary at the rate of £1,800 per annum (fixed) at the Western Province Blood Transfusion Services, Cape Town.

2. In addition to the salary indicated a cost of living allowance at rates prescribed from time to time by the Administrator is payable. The present rate is £352 per annum for married and £110 per annum for single persons.

3. The leave and pension privileges attached to the post and other conditions of service are governed by the relevant Ordinances and Regulations.

4. Candidates will be required to organise and control the technical and transfusion divisions of the Blood Transfusion Services in the Cape Province, including the establishment and administration of a Laboratory associated with Blood Transfusion Services.

5. While candidates need not be Registered Pathologists, it is essential that they should have had Laboratory experience and particularly a special knowledge of the Pathological and Laboratory aspects of Blood Transfusion.

6. The successful candidate, if not already in the Hospital Board Service, will be required to submit satisfactory birth and health certificates.

7. Application must be made on the prescribed form (Staff 23) which is obtainable from the Director of Hospital Services, P.O. Box 2060, Cape Town, or from the Medical Superintendent of any provincial hospital or Secretary of any School Board in the Cape Province.

8. The completed application forms should be addressed to the Director of Hospital Services, P.O. Box 2060, Cape Town, to reach him not later than 30 September 1954. M127246

Printed by National Commercial Printers, Elsies River, and Published by the Proprietors, *The Medical Association of South Africa*, Medical House, 35 Wale Street, Cape Town. P.O. Box 643. Telephone 2-6177. Telegrams: 'Medical'.